



Air Control

Strategy for a Smaller United States Air Force

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Col Clifford D. Scherer
United States Army, Retired
Soldier
Statesman
Knightly Gentleman

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Abstract

In 1921 as England faced severe financial pressures resulting from the economic strain of World War I, the British government sought a military strategy for policing its newly acquired Middle East mandates. After a successful demonstration of airpower's effectiveness in Somaliland, the British adopted and implemented an air control strategy in Mesopotamia, Transjordan, Palestine, and Aden. Until 1936 air control was the military strategy for those areas. Air control changed the central notion of military strategy in that theater from a surface-based to an aerial-based scheme. The Royal Air Force (RAF) enjoyed success and encountered failure when it employed the air control strategy under various conditions. After World War II, almost 20 years after the RAF abandoned air control, the United States Air Force (USAF) explored the control concept as a potential deterrent strategy. Dubbed Project Control, the USAF ultimately declined the study's main tenets but implemented elements of its proposals. Thereafter, air control remained a dormant design until the 1990-91 Persian Gulf War. There elements of the control strategy reemerged as a common thread in the conduct of the air war. This analysis of air control examines all three conceptual frameworks. By assessing the validity of the RAF and USAF models, this study finds that air control provides political and military leaders a military strategy for a smaller defense establishment. It also identifies shortcomings and advises caution when choosing the escalatory pattern of the control model.

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Chapter 1

Introduction

On 16 January 1991, President George W. Bush addressed the nation to announce the initiation of hostilities in the Persian Gulf. “This military action,” he stated, “taken in accord with United Nations resolutions and with the consent of the United States Congress, follows months of constant and virtually endless diplomatic activity.”¹ The military action he then described departed from the characteristic wartime application of United States (US) military might. Rather than depending on a land strategy to dislodge the Iraqi army from Kuwait, the president relied on what the world’s premier airpower theorist, Giulio Douhet, had called independent aviation.² Airpower was the first and foremost military tool during Operation Desert Storm.

The Persian Gulf War began with a massive, well-coordinated strategic air attack against Iraqi vital centers—their air defense network, and their command, control, and communications (C³) facilities—and a simultaneous attack against Iraq’s military forces. After its devastating initial success, the air war became a campaign to paralyze Iraq’s ability to fight.³ By the time ground operations commenced, coalition air forces had “imposed not only strategic paralysis on the whole state of Iraq but had imposed operational paralysis on the army in Kuwait.”⁴ Nevertheless, congressional analysis mirrored that of the United States Army (USA); Desert Storm was a validation of the Army’s AirLand Battle (ALB) doctrine.⁵ Unfortunately, this conclusion subscribes to ALB’s fundamental premise: the dominance of Army operations in a theater campaign.⁶

Desert Storm was not the confirmation of ALB doctrine, nor was it simply the validation of Douhet’s vision of independent airpower—“those aviation means destined to accomplish war missions to which neither the army nor the navy can in any way contribute.”⁷ Rather, Desert Storm was a combination of military operations dominated by airpower. Thus, although airpower alone did not achieve victory, its application demonstrated the successful implementation of an air control strategy.

Air control is a strategy that uses airpower as the principal military tool to obtain the grand strategic objectives of a nation.⁸ An analysis of this strategy reveals that it offers the United States the means to preserve its vital interests through military applications short of war, or if necessary, through the combat application of airpower.

The notion of air control evolved shortly after World War I.⁹ The Royal Air Force (RAF) and the British government used it to help administer Britain’s colonial empire. The British endeavor was the archetype for other applications, such as the French and Italian use of airpower in their colonies during the interwar years. In those cases, however, aircraft

served more in an auxiliary role, as a form of long-range artillery, rather than as an autonomous force.¹⁰ Thus, for analytical purposes, the British model serves as not only the first example but also as the purest example of air control.

Although the RAF engaged in air control throughout the interwar years, the strategy did not survive the totality of World War II. Nevertheless, after the war, air control theory migrated to the United States. Col Raymond S. Sleeper, an instructor at the United States Air Force (USAF) Air War College, labeled the concept as “Control by Air and Other Means,” which ultimately became Project Control.¹¹ Under the cold war magnifying glass, Project Control reflected the synthesis of the British air control experience and the airpower demonstrations of World War II. With nuclear weapons adding a new variable to the airpower formula, Project Control emerged as an Air Force contribution to germinating deterrence doctrines.

The effort marked an attempt by American airpower thinkers to identify ways in which airpower could help achieve national political objectives. Although never officially adopted as a USAF strategy, much of the rationale for Project Control found its way into other airpower applications.¹² Propitiously, continued interest in the British and the American experiments preserved the control hypothesis. Thus, in 1990 when war erupted in the original, air control proving ground, Saddam Hussein unwittingly provided the occasion for another attempt to test the control formula.

Desert Storm became the crucible in which the air control and Project Control theories merged. While molding the air campaign, Air Force Col John A. Warden III turned to the air control literature, blending the British model into his conception for the air campaign.¹³ His strategic plan, coupled with an overwhelming numerical advantage, gave coalition forces a devastating combat capability. Moreover, Desert Storm supplied an arena to demonstrate the full range of airpower’s autonomous and auxiliary applications.

This study examines air control and its associated terms, explores how British and American views of airpower produced novel air control theories, and provides a critical assessment and synthesis of control elements that may be used in future airpower strategies. Accordingly, this work focuses on four areas: the British air control experience in the Middle East from 1922 to 1936, the 1953–54 USAF Project Control study; the application of air control tenets during and after Desert Storm, and the suitability of air control as a guide for current and future applications of USAF airpower.

In developing these ideas, this analysis draws mainly from primary sources, although where primary information was unavailable or inaccessible, it relies on secondary materials. Evidence regarding British air control came from the early writings of airmen and soldiers involved in the experience, as well as from several works written by those same participants after many years of reflection. Secondary sources, chiefly historical explication, help focus much of the eagerly written early works into

digests of air control advocacy and criticism. Project Control's archives provide major insights concerning Colonel Sleeper's program. Personal interviews with Colonel Sleeper and Dr. Robert Frank Futrell, a key Project Control team historian, supplemented the archival records. These interviews help clarify Colonel Sleeper's methodology and conclusions. Primary sources for the 1991 Persian Gulf War come from United Nations (UN) resolutions, congressional reports, presidential documents, the analyses of the military services, and a personal interview with Colonel Warden, the originator of the Desert Storm air campaign plan. Finally, various secondary sources proffer a medley of views on military activities during and after the Persian Gulf War.

Yet within these source materials a discomfiting array of esoteric terminology shapes the literature, and several terms warrant clarification. Within the air control framework, two definitions eclipse all others: (1) Airpower is the application of offensive or defensive force—and the ability to threaten use of that force—with a nation's air and space assets; and (2) Strategy is “a plan of action that organizes efforts to achieve objectives.”¹⁴ These beliefs form the foundation of the control structure. The notion that airpower acts in either an auxiliary or an autonomous role is also an important consideration in understanding the air control framework. Auxiliary airpower supports ground or sea forces. Autonomous airpower works apart from ground or sea forces, pursuing goals independent of those sought by armies or navies. Two examples demonstrate this distinction.

Israeli Air Force (IAF) operations during the Six-Day War represent an example of auxiliary airpower. At sunrise on 5 June 1967, the IAF undertook a preemptive attack against Egyptian air bases. These raids, coupled with similar strikes against Syrian, Jordanian, and Iraqi air bases, eliminated most aerial opposition.¹⁵ Although the IAF stripped Israel's enemies of their air forces and made them vulnerable to IAF bombing, this achievement was not the purpose for these strikes. Rather, the Israelis hoped to produce two other effects: to eliminate the aerial threat to the Israeli Defense Force (IDF) and the Israeli homeland and to free IAF aircraft for combat support missions.¹⁶

Israel's main objective was to eliminate the Egyptian army, or the threat that it imposed, in the Sinai. To achieve that objective, the IAF sought air superiority over Israel and the Sinai. Depending on the ultimate purpose for achieving command of the air, air superiority can be an auxiliary or an autonomous mission. For the IAF, air superiority became an auxiliary application of airpower because its actions directly supported the IDF's maneuver campaign. Complete air superiority also permitted the IAF to conduct unimpeded aerial resupply, interdiction, and close support missions. Successful IDF progress along a three-pronged front ultimately led to a decisive battle at Mitla Pass. There, the IAF and IDF combined to annihilate the remnants of the Egyptian Army.¹⁷ Thereafter, similar operations on the Syrian and Jordanian borders produced matching results.

Hence, during the Six-Day War airpower combined with surface power in the form of the IDF to achieve integrated campaign objectives. In this case, the IAF adopted an auxiliary strategy; however, airpower can also act autonomously.

The Berlin airlift is an example of autonomous airpower. In June 1948 the Soviets cut allied ground lines of communications between the West German occupation zones and West Berlin. The Western allies defied the blockade and resupplied West Berlin with 266,600 flights delivering 2,223,000 tons of supplies.¹⁸ Although an escalation of this crisis could have involved allied armies and navies, airpower acted alone. As a result, by August 1949 the inability to counter the airlift—and the threatened application of sterner measures if the airlift were challenged—contributed to Moscow's decision to end its blockade.¹⁹ In this case, a surface attack against the Soviet division enforcing the blockade was unnecessary. Airpower achieved the desired results without resorting to combat.

An air control strategy applies both auxiliary and autonomous airpower functions to achieve political and military objectives. As the military services become smaller, cooperative strategies provide the wherewithal for improved combat results. Hence, air control is a relevant strategy for the post-cold-war political and military environment. Economically sound and technically feasible, air control offers the United States a coherent means of military implementation to consider when constructing national political objectives. A look at the British experiment in the Middle East from 1922 to 1936 provides the historical precedent from which the remainder of this study emanates.

Notes

1. President George H. W. Bush, "Address to the Nation Announcing Allied Military Action in the Persian Gulf, January 16, 1991," *Weekly Compilation of Presidential Documents* 27, no. 3 (21 January 1991): 50.

2. Giulio Douhet, *The Command of the Air*, trans. Dino Ferrari (1942; new imprint, Washington, D.C.: Office of Air Force History, 1983), 75.

3. John A. Warden III, "Employing Air Power in the Twenty-first Century," in *The Future of Air Power in the Aftermath of the Gulf War*, eds. Richard H. Shultz Jr. and Robert L. Pfaltzgraff Jr. (Maxwell Air Force Base [AFB], Ala.: Air University Press, July 1992), 70–78.

4. *Ibid.*, 78.

5. Representative Les Aspin and Representative William Dickinson, *Defense for a New Era: Lessons of the Persian Gulf War* (Washington, D.C.: Government Printing Office, 1992), viii; and US Army Concepts Analysis Agency, *Headquarters Department of the Army Desert Shield/Desert Storm After Action Report*, vol. 1 (Bethesda, Md.: Concepts Analysis Agency, 1991), ES-1.

6. Field Manual (FM) 100-5, *Operations* (Washington, D.C.: Department of the Army, 5 May 1986), i and 14–15. AirLand Battle doctrine is the United States Army's formula for "generating and applying combat power at the operational and tactical levels." It assumes a land-based strategy with an Army officer as theater commander.

7. Douhet, 75.

8. Air Force Manual (AFM) 1-1, *Basic Aerospace Doctrine of the United States Air Force*, vol. 1, March 1992, 6; *Global Reach—Global Power: The Air Force and US National Security* (Washington, D.C.: Office of the Secretary of the Air Force, 1990); Gen Merrill A. McPeak, [Text of speech delivered at Maxwell AFB, Ala., 19 June 1992], in *Air Force Times*, 3 August

1992, 4–5. Air control must not be confused with the current USAF term *aerospace* control, which “assures the friendly use of the [aerospace] environment while denying its use to an enemy.” In this context, airpower’s only autonomous function is to obtain “objectives [that are] designed to gain and maintain control of the aerospace environment.”

9. A comprehensive examination of the Royal Air Force experience is found in David E. Omissi, *Air Power and Colonial Control: The Royal Air Force, 1919–1939* (Manchester, England: Manchester University Press, 1990); although much of the current work on air control seems based on the accounts given by Air-Commodore C. F. A. Portal, “Air Force Co-Operation in Policing the Empire,” *RUSI Journal* 82, no. 526 (May 1937): 343–58; and, Flt Lt E. J. Kingston-McCloughry, “The Gordon-Shepard Memorial Prize Essay, 1933,” *Royal Air Force Quarterly* 5, no. 3 (July 1934): 249–74.

10. For an assessment of French airpower in Morocco during the interwar years, see Charles Christienne and Pierre Lissarrague, *A History of French Aviation*, trans. Francis Kianka (Washington, D.C.: Smithsonian Institution Press, 1986): 231–40; Italian airpower is assessed by Brian R. Sullivan, “The Italian Armed Forces, 1918–1940,” in *Military Effectiveness: The Interwar Period*, vol. 4, ed. Allan R. Millett and Williamson Murray (Boston: Unwin Hyman, 1990), 169–217.

11. Tami Davis Biddle, “Handling the Soviet Threat: ‘Project Control’ and the Debate on American Strategy in the Early Cold War Years,” *Journal of Strategic Studies* 12, no. 3 (September 1989): 273–302; and David J. Dean, “Project Control: Creative Strategic Thinking at Air University,” *Air University Review* 35, no. 5 (July–August 1984): 22–32.

12. Biddle, 295n.

13. John A. Warden III, interviewed by author, Maxwell AFB, Ala., 1 March 1993.

14. Dennis M. Drew and Donald M. Snow, *Making Strategy: An Introduction to National Security Processes and Problems* (Maxwell AFB, Ala.: Air University Press, August 1988), 13.

15. Chaim Herzog, *The Arab-Israeli Wars* (New York: Vintage Books, 1984), 151.

16. *Ibid.*, 153.

17. *Ibid.*, 162–63.

18. Charles E. Miller, *Airlift Doctrine* (Maxwell AFB, Ala.: Air University Press, 1988): 175.

19. *Ibid.*

Chapter 2

British Air Control from 1922 to 1936

Great Britain created the Royal Air Force on 1 April 1918,¹ granting it legitimacy “as an independent means of war operations.”² Although the RAF achieved service autonomy on the eve of the armistice, its leaders would still have to struggle to assure their institutional survival during the interwar era.³ A key issue for the new service became the role of the RAF: Was it primarily an auxiliary air force, supporting ground or sea forces; or, was it primarily an autonomous one, working apart from ground or sea forces? With this question looming, the RAF entered the interwar years.

World War I was a dominant force in the shaping of postwar British military thinking. The combined effect of a stalemated land war, unrestricted submarine warfare, and German Gotha raids on London had a particular influence on thinking about airpower.⁴ For the first time, British civilians felt exposed and threatened. They sensed that they were no longer isolated from the rest of Europe. The British came to realize that defeat might not come from battle on the continent or at sea. Rather, it might come from the lack of a desire to fight from the British populace.⁵ This perceived vulnerability of national will intrigued airpower thinkers.

After suffering three million casualties on the western front, the British populace embraced the armistice. However, the war’s end triggered colonial difficulties that the British had neglected during the conflict. In an August 1919 letter to Secretary of State for War and Air Winston S. Churchill, Chief of the Imperial General Staff Field Marshal Sir Henry Wilson outlined the problem. He pointed out that World War I had only postponed colonial difficulties. He cited Ireland, Egypt, India, and Iraq as potential trouble spots. He also predicted, “It is possible, even probable, that if we get into difficulties in any one of those theatres we shall get into difficulties in all four.”⁶ By 1929 Wilson’s concern had become prophecy.

The RAF emerged from World War I a robust, technologically advanced force.⁷ Yet, a year after the Armistice “in an atmosphere of ‘No More War,’ the R.A.F. had dwindled almost beyond belief.”⁸ Despite orders to cut costs, even if that required dismantling the RAF, on 12 January 1919, Churchill reassured RAF leaders that he intended to retain it as a separate service. Subsequently, he asked Air Marshal Hugh M. Trenchard to assume command as chief of the Air Staff.⁹ Against this backdrop, the policy of air control emerged.

During 1919 and 1920, airpower proved itself useful in subduing colonial disturbances in Somaliland, Iraq, and India’s North-West Frontier Province.¹⁰ Initially, the army was reluctant to use airpower in any manner other than close cooperation; however, in May 1919, Lord Milner,

Britain's colonial secretary, asked Air Marshal Trenchard for a proposal to use aircraft against insurgents in Somaliland.¹¹ While developing his plan, Trenchard convinced Churchill and the Colonial Office that the addition of a small RAF detachment would permit the army to reduce the size of its force.¹² As a result, what was once the sole domain of the British army, combating insurgency, changed with the arrival of "Z" unit—36 officers, 183 enlisted airmen, and eight de Havilland DH-9 biplanes—in British Somaliland in January 1920.¹³ Z unit's inaugural operation was an autonomous attack against the "Mad Mullah" in Jid Ali Fort. The result amazed even Trenchard, as "the first raid almost finished the war."¹⁴ After eluding the British army for 20 years, Somaliland's Mad Mullah was subdued after only three more weeks of combat.¹⁵

Churchill found the success of air operations in Somaliland intoxicating. In mid-February 1920, he approached Trenchard to create a scheme for using airpower as a form of Imperial Policing.¹⁶ His bait was a 5–6 million-pound increase in the annual RAF budget and the appointment of an RAF officer as commander in chief in the chosen theater.¹⁷ Trenchard responded with his air control proposal.

Trenchard's scheme contained political, military, and economic dimensions. The political scope of Trenchard's plan envisioned RAF control of a geographically defined area without its actual occupation by ground forces.¹⁸ This control was possible because airpower opened previously inaccessible interior areas to colonial diplomats¹⁹ and made possible quick communications between government officials and indigenous societies.²⁰ His military goal was to achieve victory—not through the numbers of casualties inflicted—but through the ability to persuade without violence.²¹ He believed that if force became necessary the RAF could use indirect methods that caused dislocation, such as dispersing flocks and disrupting the natives' normal lives, rather than through the destruction of property or killing.²²

Because Trenchard viewed airpower as an indivisible force, an important element of his design was the decentralized execution of military operations under the centralized control of an air officer. He advocated decision making at the lowest level of command, while centralized authority remained at the highest level of colonial administration.²³ Finally, from the economic vantage point, he viewed airpower as an instrument to reduce colonial expenses.²⁴ After convincing Churchill of the potential benefits air control provided the empire, Trenchard brought the proposal to the next meeting of the Colonial Ministers.

Thereafter, British colonial delegates to the 1921 Cairo Conference adopted air control as policy for the Middle East mandates, and the War Cabinet approved their decision in August that year.²⁵ In October 1922, the RAF assumed responsibility from the War Office for the security of Iraq. When Air Vice Marshal Sir John Salmond took charge, he became the first RAF officer in peacetime with an independent command.²⁶ Iraq became the first test for Trenchard's ideas.

The original purpose of air control was the use of airpower as the primary security tool to support the colonial administration's efforts to provide law and order.²⁷ Therefore, to many, air control was synonymous with air policing, "the use of aircraft to uphold the internal security of the state," and air substitution, the replacing of other tools of military force with airpower.²⁸ In actual practice, however, air control became much more than either connotation.

In 1919 through a provision of the Treaty of Versailles, Iraq became a British mandate.²⁹ The objective of the mandate system and the goal of the British government was to ease Iraq into political, military, and economic autonomy. Arab impatience, however, led to rebellion in 1920.³⁰ As a result, in October 1922 the RAF began the administration of Iraq in a festering climate of ethnic and religious dynamism. From 1922 through 1936, the RAF also employed air control schemes in Aden, Palestine, and Transjordan. RAF operations from this period suggest that they resolved most "crises" without resorting to the application of force.³¹ Yet, four cases stand out due to the level of violence associated with them. In the Sheik Salim incident, the Sheik Mahmud incident, and the Quteibi uprising in Aden, the RAF employed the full air control prescription. In contrast circumstances during the 1929 Palestine riot thwarted RAF attempts to contain the fighting. RAF action during these four instances forms the basis for the air control paradigm.

In 1921 the British installed Emir Faisal as the first King of Iraq.³² Iraq subsequently achieved its independence from Great Britain in 1932. From 1921 until 1932, King Faisal worked to establish his authority with British assistance. His protection was the responsibility of a small, British-trained, indigenous constabulary. In contrast the RAF maintained the Iraq Levies, a 4,600-member infantry force composed mostly of Assyrian Christians.³³ The principal military forces available to the air officer in charge were eight RAF squadrons, with approximately 12 aircraft each, and four armored car companies, with approximately 24 vehicles apiece.³⁴ Hence, in Iraq air control became the instrument the British used to help King Faisal consolidate power.

The classic example of air control occurred during operations against Sheik Salim al Khayun. Sheik Salim was a powerful warlord who controlled the tribes inhabiting the thousand square miles of marshland surrounding Iraq's Hammar Lakes region.³⁵ In the autumn of 1924, he led his own tribe into open rebellion against government authority.³⁶ The British administration presented him with terms and gave him five days to appear before the administrative inspector at Nasiriyah. When the time expired, RAF officers flew overhead dropping pamphlets issuing a final warning for him and his village of Chubaish to submit or face the consequences. The RAF then gave him 12 additional hours to surrender. When he failed to respond, aircraft bombed his estate. Thereafter, it only took an hour to break Salim's authority. With airpower having wrecked his prestige, his

followers compelled him to submit.³⁷ Sheik Salim surrendered without further incident.

The Sheik Salim incident came to a successful conclusion in large part due to tribal hegemony. In this instance, tribal life was structured and stable. RAF bombing induced fear and threatened further punishment. Consequently, the perceived risk to the tribe's stability and survival outweighed Sheik Salim's authority.

In 1930, however, the RAF faced an entirely different scenario in Iraq. Sheik Mahmud initiated an insurrection to remove government control from the whole of Kurdistan.³⁸ Unfortunately for the sheik, since a previous exile had cost him in prestige among the other Kurdish tribes, he operated as an outlaw leader without an established support base.³⁹ Nonetheless, he mustered a rebel force—a group of fiercely nationalistic ethnic Kurds—by recruiting men from Kurd villages along the Turkish and Persian borders.⁴⁰

The nature of Mahmud's threat led the Iraqi government to plan a land-based operation supported by airpower. Initially, the RAF limited its actions to the auxiliary role of aerial reconnaissance. The campaign began in October 1930, and until February 1931 Sheik Mahmud confined his operations to attacks on Iraqi police posts.⁴¹ By the end of February, however, the rebellion extended to the Qara Dagh Valley and the Shaikan district. On 18 March rebels ambushed and surrounded an Iraqi patrol. On the 26th the Iraqi government formally asked the British high commissioner for air-action against those villages sheltering the rebels.⁴² On the 28th and 30th, aircraft dropped leaflets warning the attackers to abandon the villages of Beluli and Hurin. Once abandoned, the aircraft destroyed them. By 2 April, all but two village chiefs had reaffirmed their loyalty to the Faisal government.⁴³

Later, aerial reconnaissance located Sheik Mahmud. The RAF then conducted autonomous operations against his rebel force, with the Iraqi army supporting the operation by reestablishing government authority.⁴⁴ Subjected to continuous aerial attack and unable to resupply his guerrillas, he retreated into Persia and surrendered on 13 May.⁴⁵ Soon afterwards, RAF aircraft flew Sheik Mahmud from Persia to Ur in southern Iraq. His subdued appearance had the added effect of encouraging the remaining insurgents to surrender.⁴⁶

In contrast to the Sheik Salim incident, in the Sheik Mahmud incident ethnic nationalism replaced tribal hegemony. Tribal survival, therefore, was not a factor in Sheik Mahmud's scheme. Thus, pressure to submit resulted more from military coercion than from other external factors.

In Aden, in 1934, both military coercion and external conditions played a role. There the RAF developed a new air control variation.⁴⁷ In previous years, the Port of Aden had been a coaling station for British merchant ships and the Royal Navy, but its importance had diminished as coal burning ships disappeared.⁴⁸ After World War I, the administration of Aden became a source of friction between India's Colonial Office and the

London government. Aden's geographic significance, at the horn of the Arabian peninsula, placed it in economic competition with Bombay.⁴⁹ Moreover, fear of Italian encroachment in the region made the air control debate a convenient excuse for London to divest itself of both problems by putting the Aden Protectorate's administration in RAF hands.⁵⁰

With the experience gained in Iraq, the RAF was better prepared to conduct autonomous operations. The source of the 1934 disturbance was a raid on a caravan by Quteibi tribesmen. The caravan was important as it was the first since the signing of a treaty with Yemen in February. Its security, therefore, was of great political consequence.⁵¹ The RAF responded swiftly to the raid. First, the British resident drafted an ultimatum and delivered it by air to the errant tribe, specifying the amount of time allotted for compliance with the demands. Shortly after the time expired, aircraft dropped small bombs on the tribe's principal villages.⁵² Afterwards, RAF operations developed into what became the "inverted blockade." For two months, RAF patrols isolated the tribe from any outside contact. Finally, the British resident communicated with the rebels through a neighboring tribe and proposed a meeting with the rebel tribe's leaders. After conferring in a neutral area, the rebels agreed to all British terms.⁵³

In this incident, tribal hegemony did not prevent the illicit act nor did it encourage submission. Instead, ethnic hegemony was the main factor encouraging resistance until the price for continued resistance outweighed the cost of submission. In Palestine, however, the RAF faced an entirely different ethnic equation. Like Iraq, Palestine had become a British mandate after World War I. Yet, unlike the other mandates, its citizens lived primarily in urban areas. In addition, Palestine lacked the tribal hegemony evident in Iraq and Aden and was prone to ethnic disturbances.

Independence movements in Egypt, Iraq, and Transjordan were the sparks that ignited the Palestine riots of 1929.⁵⁴ Because Palestine's crowded areas prevented British pilots from distinguishing rioters from onlookers, the urban turmoil proved unsuitable for any application of airpower.⁵⁵ As a result, Britain rushed three army battalions from Egypt to Palestine and an army brigadier general temporarily assumed command of all forces in the country. Unable to police Palestine autonomously, the RAF protected rural areas by attacking isolated looters and patrolling the frontier. The RAF also flew in Army reinforcements from Egypt.⁵⁶ In analyzing the crisis, British army officers admitted the validity of the air control notion and blamed its failure on the RAF's inability to support the police force with infantry reinforcement.⁵⁷ A more likely reason was the incapacity of any external force to overcome the ethnic divisions that lay at the root of the communal violence. Still, the rioting did not alter British determination to maintain the RAF as the primary security force in Palestine or elsewhere.⁵⁸

Hence, from the various British air control experiences during the inter-war years, a pattern developed. In all but the 1929 Palestine case, operations roughly followed five phases. First was the presentation of an ultimatum to the insurgent leadership. During this phase, the RAF used autonomous airpower to transport a government representative to present terms to the hostile leaders. Air-Commodore Charles Portal, air officer in charge at Aden, suggested that two rules governed the development of the ultimatum: there must be an alternative to being bombed, and clear terms must be prepared and presented to avoid any chance of misunderstanding.⁵⁹ In this regard, RAF action and the colonial government's role were inseparable. This marriage of military and political goals resulted in many unique relationships. Often, for instance, an RAF officer served as the liaison to the tribal leader.

The next step was a cooling off period, aimed at placing time between the offending event, the government's decree, and the initiation of punishment. During this period, which could vary from 12 hours to three weeks, RAF airpower served as an unseen force supporting the ultimatum. The RAF used this period to repair and prepare its equipment. The insurgents also used it, often to evacuate families and possessions from threatened areas.⁶⁰

Phase three was a last attempt to encourage submission. During this brief phase, RAF aircraft dropped leaflets or broadcast a final warning announcing that bombing would soon begin. The transition to phase four usually occurred within several hours of the final ultimatum. The fourth phase was the autonomous application of force to obtain compliance. During this span the RAF discovered that the rebels passed through four periods of reaction: defiance, internal dissension, boredom, and submission.⁶¹ The fourth phase typically ended with the tribe's capitulation.⁶² The result was phase five, the resumption of normal relations.

Air control was not, however, successful in every case, and even after successful operations, RAF officers expanded their understanding of airpower's limitations. In Iraq, for example, the RAF was aware of its logistical dependence on the railway line from Basra to Baghdad. If a rebel band had destroyed that rail line, the RAF would have been hard pressed to carry out its operations.⁶³ In an experiment, conducted in 1929, to discover how long before the RAF could resupply a unit from Egypt to Baghdad without a railroad from Basra, the British discovered "the minimum time in which the combined rail and sea journey could be done [was] twenty-three days."⁶⁴ Fortunately, rebels never discovered this flaw in logistics. Nonetheless, the effort demonstrated a potential weakness in the air control scheme.

Although the RAF assumed responsibility for Palestine's security in 1922,⁶⁵ several items made it different from Iraq or Aden. In both Iraq and Aden racial and ethnic minorities lived in geographically segregated, homogeneous enclaves. Each enclave had an elder who acted as the senior leader for the group. In Palestine, however, the racial and ethnic

minorities were colocated, often separated by no more than the wall between their homes. Additionally, disparate orthodoxies and political outlooks produced large numbers of Jewish and Moslem leaders.⁶⁶ Thus, the RAF judged air control to be unsuited for the nature of the disorder there. In 1929 airpower could neither overcome Palestine's urban environment, nor influence the communal nature of the violence.

Despite its limitations, the air control experience gave Great Britain a viable airpower strategy. In each air control case, the main objective was the restoration of law and order.⁶⁷ Despite such a broad purpose, the British applied limited force.⁶⁸ Damage to property and livestock was tightly controlled.⁶⁹ The ultimate objective was to attain enduring peaceful relations with the indigenous population. To achieve this goal, the RAF built airfields near major villages. That served two purposes. First, an airfield made a village accessible to British officials, and it made the seat of government accessible to interior tribesmen.⁷⁰ The availability of airpower also enhanced civil affairs programs. Medical officers flew to the home of the Amir of Dhala, in Aden, to accomplish an emergency operation on a child of the Amir.⁷¹ Air control further aimed to avoid alienating the indigenous population. Air-Commodore Portal's observation suggests this objective was an inherent aspect of air control. "The tribesmen," he wrote, "regard the aeroplane as an impersonal agent of Government."⁷²

Moreover, air control provided the RAF with a wealth of knowledge about its military capacity. Initially, officers discovered the need for solid intelligence about their enemy.⁷³ The RAF also discovered that air control did not "depend for its efficacy upon human casualties or wastage of property. Its value lies in the persistent interruption it offers to the normal flow of tribal life—a steady, ceaseless, remorseless interruption which in the end breaks down the most stubborn resistance."⁷⁴ Disruption, not destruction, became the goal of air control operations.

Air control offered the British a method for applying airpower that did not have to be lethal. It also demonstrated that it could reduce an enemy's will to resist. In Iraq and Aden, the homogeneous nature of the enemy enhanced air control operations, but in Palestine the reverse was true. This variance revealed that a thorough—and accurate—examination of the enemy, to include his environment, his culture, and his values, was absolutely essential before a nation began to implement a strategy of air control.

Notes

1. David E. Omissi, *Air Power and Colonial Control: The Royal Air Force, 1919–1939* (Manchester, England: Manchester University Press, 1990), 7.

2. "Air Organization: Second Report of the Prime Minister's Committee on Air Organization and Home Defence against Air Raids, dated 17th August 1917 [Smuts's Report]," quoted in H. A. Jones, *The War in the Air*, vol. 6, appendix 2 (Oxford: Clarendon Press, 1935), 10.

3. R.C.A.F. Bulletin No. 10, *Role of the R.A.F. in War and the Strategical Use of Air Power* (London: Air Ministry, May 1943), pt. 1, 2-3.
4. Malcolm Smith, "The RAF and Counter-force Strategy before World War II," *RUSI Journal* 121 (June 1976): 68.
5. *Ibid.*
6. *The Military Correspondence of Field Marshal Sir Henry Wilson, 1918-1922*, ed. Keith Jeffery (London: Bodley Head, 1985), 121-22.
7. Omissi, 8.
8. *Role of the R.A.F. in War*, 2.
9. Omissi, 8.
10. David J. Dean, "Air Power in Small Wars: The British Air Control Experience," *Air University Review* 34 (July-August 1983): 27; Maj-Gen Sir Charles W. Gwynn, *Imperial Policing* (London: Macmillan and Co., 1936), 4-5; and Capt A. P. C. Hannay, "Empire Air Policy," *Royal Air Force Quarterly* 1 (October 1930): 643-49. Uprisings in Somaliland, Iraq, and the North-West Frontier resulted in punitive actions by colonial governments. The objective of punitive expeditions was the restoration of law and order, and they were conducted with the belief that "the power and resolution of the [British or colonial] Government forces must be displayed." The British relied on quick ground actions aimed at inflicting maximum enemy suffering. Punitive expeditions, however, were expensive in human and financial loss, indiscriminate in application of suffering, and temporary in effect. In a climate of fiscal austerity, these punitive expeditions became the economic albatross of the colonial administration.
11. Omissi, 14.
12. *Role of the R.A.F. in War*, pt. 2, 2.
13. Flt Lt F. A. Skoulding, "With 'Z' Unit in Somaliland," *Royal Air Force Quarterly* 2 (July 1931): 392.
14. *Ibid.*
15. David Killingway, "'A Swift Agent of Government': Air Power in British Colonial Africa, 1916-1939," *Journal of African History*, 1984, 434.
16. Omissi, 21.
17. *Ibid.*
18. *Role of the R.A.F. in War*, pt. 4, 2.
19. Hannay, 645.
20. Capt John B. Glubb, "Air and Ground Forces in Punitive Expeditions," *RUSI Journal* 71 (August 1926): 783.
21. Wing Comdr R. H. Peck, "Aircraft in Small Wars," *RUSI Journal* 73 (August 1928): 539.
22. Wing Comdr W. A. McClaughry, "The 'Gordon-Shepard' Memorial Prize Essay, 1929," *Royal Air Force Quarterly* 1 (July 1930): 452.
23. Flt Lt E. J. Kingston-McCloughry, "The Gordon-Shepard Memorial Prize Essay, 1933," *Royal Air Force Quarterly* 5, no. 3 (July 1934): 249.
24. Omissi, 24.
25. *Ibid.*, 25-26.
26. Air Marshal Sir John Salmond, "The Air Force in Iraq," *RUSI Journal* 70 (August 1925): 483.
27. Kingston-McCloughry, 249.
28. Omissi, xv.
29. *Role of the R.A.F. in War*, pt. 4, 2. Before 1918 colonies were one of the prizes of victory; however, "the victors of 1918 agreed to modify that practice. The principle that colonies are held in trust on behalf of their inhabitants by the sovereign state, and that the latter should be accountable for its trusteeship to a higher authority, gave birth to the 'mandate' system."
30. Lt Gen Sir Aylmer Haldane, "The Arab Rising in Mesopotamia, 1920," *RUSI Journal* 68 (February 1923): 63-81; and Dalil [pseud.], "The Campaign in Mesopotamia—The First Phase," *RUSI Journal* 69 (August 1924): 510-26. The 1920 Arab uprising was more a test of political will than of military capability. The Arab forces lacked centralized leadership and were easily isolated by British ground and air forces. The importance of this brief conflict, however, was that it prolonged the transition to Iraqi independence as it demonstrated to the British a need to invest in nation-building measures.
31. Kingston-McCloughry, 266-73.

32. *Role of the R.A.F. in War*, pt. 4, 3.
33. David E. Omissi, "Britain, the Assyrians and the Iraq Levies, 1919–1932," *Journal of Imperial and Commonwealth History* 17 (1989): 304.
34. *Role of the R.A.F. in War*, pt. 4, 3; and Flt Lt A. L. A. Perry-Keene, "Mosul to Moascar," *Royal Air Force Quarterly* 2 (April 1931): 211.
35. "Iraq: The Hammar Lakes," *Royal Air Force Quarterly* 4 (October 1933): 371–72. Sheik Salim was a powerful and influential Arab leader. "Salim belonged to the Beni Asad tribe, members of which were scattered throughout the marsh area. Not only had he great influence over his own tribe but also he had managed to exert his authority over the loosely knit sections of other tribes throughout the Ma'dan. He was also well known in Basrah." During World War I, the British Mesopotamian Expeditionary Force pursued Sheik Salim because he was suspected of harboring Turkish agents; however, he escaped to Bombay. In 1919 Sheik Salim returned and capitulated to British demands.
36. "Iraq: The Hammar Lakes," 373.
37. *Ibid.*
38. Gp Capt A. G. R. Garrod, "Recent Operations in Kurdistan," *RUSI Journal* 78 (May 1933): 232; and *Role of the R.A.F. in War*, pt. 4, 4. Sheik Mahmud of Sulaimania was a Kurd chieftain driven to obtain Kurd independence from Iraq. From 1918 through 1930, Sheik Mahmud was in frequent conflict with British authority. "So great was his power that the British authorities in 1922, like the Turks before them in 1918, found it politic to appoint him governor in the Sulaimania area." By 1924, however, the sheik was again at odds with the British and "after due warning, his headquarters in Sulaimaniya [*sic*] were destroyed by bombing." Afterwards he made peace with British authorities but lived in Persia, in exile, with his family. Shortly after Iraq gained its independence, in 1929, he returned from exile in Persia to press, once again, for an independent Kurdistan.
39. Garrod, 234.
40. *Ibid.*, 233–34.
41. *Ibid.*, 236.
42. *Ibid.*, 237.
43. *Ibid.*, 237–38.
44. *Ibid.*, 238.
45. *Ibid.*, 240.
46. *Ibid.*
47. Sqdn Ldr J. L. Vachell, "Air Control in South Western Arabia," *Royal Air Force Quarterly* 2 (January 1931): 4; The Honourable Sqdn Ldr R. A. Cochrane, "The Work of the Royal Air Force at Aden," *RUSI Journal* 76 (February 1931): 96; and Air-Commodore C. F. A. Portal, "Air Force Co-Operation in Policing the Empire," *RUSI Journal* 82 (May 1937): 351. The RAF assumed responsibility for the security of Aden in May 1928 and saw its first action against the Imam of Yemen in June 1928. In 1929 the RAF successfully countered an insurrection by the Subehi Tribes with an air control response patterned after the Sheik Salim model. After many years of tension between the Yemeni Imam and British officials in Aden, both parties signed a treaty defining a common border and establishing trading rights in the region.
48. R. J. Gavin, *Aden under British Rule: 1839–1967* (New York: Harper and Row, 1975), 252.
49. *Ibid.*, 254.
50. *Ibid.*, 258.
51. Portal, 351.
52. *Ibid.*, 352–53.
53. *Ibid.*, 354.
54. David Omissi, "Technology and Repression: Air Control in Palestine 1922–1936," *Journal of Strategic Studies* 13 (December 1990): 47.
55. Omissi, *Air Power and Colonial Control*, 48.
56. *Ibid.*, 45.
57. Capt F. W. Bewsher, "Cooperation between the Royal Air Force and Irregular Troops in the Desert," *Army Quarterly* 12 (April 1926): 64; and Gwynn, 247.
58. Omissi, "Technology and Repression," 54–55. In 1936 riots again erupted in Palestine. These riots differed from those of 1929 for one main reason; they were not inspired by ethnic differences. The 1929 rioting was a conflict between the Arabs and Jews, forcing RAF leadership to remain impartial. The 1936 riots were an Arab revolt

against British rule, forcing the RAF to defend not only the Jewish population but also itself. The initial RAF reaction was an air control operation along the Sheik Salim model; however, the Arabs proved to be fierce in their resistance. "The main armour of the insurgent band was evasion rather than active resistance. Holding no ground, possessing no headquarters or lines of communications, the rebels slipped away when matched and fought only when at a local advantage." Thus, the RAF, in co-operation with British army and Arab Legion forces, adapted to a campaign based on that conducted against Sheik Mahmud, and they successfully quelled the revolt.

59. Portal, 351-52.

60. Kingston-McCloughry, 255.

61. Portal, 353. Initially, the RAF noticed the rebels were defiant and boastful of revenge. Next, the rebels experienced a period of internal dissension, attempting to fix blame among themselves for their situation while simultaneously protesting to the government of the injustice of the air actions. Boredom and the onset of concerns for their agricultural livelihood marked the third period. Finally, the tribe offered peace terms to the government in an effort to save face and somehow avoid complying with the government's terms.

62. Portal, 353.

63. Capt McA. Hogg, "Aeroplanes in Future Warfare," *Army Quarterly* 9 (October 1925): 104.

64. Perry-Keene, 211.

65. Omissi, *Air Power and Colonial Control*, 44.

66. Gwynn, 221-23.

67. Portal, 348.

68. Dean, 30.

69. Kingston-McCloughry, 255.

70. Vachell, 6.

71. *Ibid.*, 9.

72. Portal, 348.

73. Kingston-McCloughry, 249; Cochrane, 97; and Portal, 352. "Good intelligence enables an action to be aimed at a leader wherever he moves, at his property and the villages of the main adherents, and to leave untouched the property of those well disposed, in a manner quite uncanny to the culprits." In addition, intelligence gave air control an even greater dimension, as many saw "the essence of air control [as] an accurate and detailed knowledge of the people." Air-Commodore Portal suggests, "In order to put the screw on scientifically you must know a great deal about the country and the people, their resources, their methods of living, and even about their mental processes."

74. Kingston-McCloughry, 274.

Chapter 3

Project Control from 1953 to 1954

The totality of World War II led American political and military leaders to reexamine the military's role in formulating grand strategy.¹ At Air University, Maxwell Air Force Base, Alabama, the nucleus of creative thinking for the new USAF, strategists examined the RAF's interwar experience in light of both World War II and the atomic bomb to determine the applicability of air control in the nuclear age. Prompted by the State Department Policy Planning Staff's reaction to a 1948 USAF presentation on nuclear war plans,² Air University gathered an impressive array of distinguished individuals to examine political, military, and economic policy options to guide US grand strategy.³ Ultimately, this effort became Project Control.⁴

Colonel Sleeper was the intellectual force behind the project. A graduate of West Point and a combat-experienced bomber pilot, Colonel Sleeper spent the last year of World War II working on Gen Douglas MacArthur's staff. His experiences in the Pacific theater led him to question the efficacy of area bombing with incendiary munitions and to search for a different type of airpower application suitable for the Pacific theater.⁵ Japan's apparent capitulation to America's nuclear might did not discourage that quest.

In 1948 while attending a briefing on the Air War Target Systems Plan for a projected conflict with the Soviet Union, Colonel Sleeper met State Department representatives George Kennan and Charles Bohlen. At that meeting, Kennan and Bohlen protested that USAF nuclear strategy was not compatible with US political goals.⁶ Their concerns became his.

In 1952 he traveled to England as a member of the USAF Air War College faculty. There he met Marshal of the RAF Sir John Slessor, who introduced him to the Air Ministry Archives and the concept of air control.⁷ Colonel Sleeper soon decided that air control deserved further investigation. Project Control resulted from his quest for a new method of airpower application.

The purpose of Project Control was to show the advantages of using an air control framework to formulate American grand strategy. In particular, the project emphasized that airpower could serve as the primary instrument of national power for the preservation of "world peace and security."⁸ Although members of the project embraced this theme for many reasons, the main one was the shared perception that the unconditional surrender demands on Germany and Japan during World War II had been excessive.⁹ Project Control sought to apply political, military, and economic power in a manner that avoided such an absolute end. Moreover, the Project Control team concluded that the goal of a Soviet

unconditional surrender was the basis of current military strategies,¹⁰ even though “the political objectives [had] departed from ‘unconditional surrender.’”¹¹ The Korean War experience further convinced team members that the United States could not fight peripheral wars with total war logic.¹² Hence, it was the Project Control team’s intention to chart a course that brought American military strategy in line with US national objectives.¹³

As a measure for avoiding the finality of unconditional surrender, Project Control was a natural evolution of the successful British model.¹⁴ For instance, its thesis reflected the conclusion “that air power should be used as a political instrument, not only as a military instrument.”¹⁵ The problem was to develop this notion as a relevant strategy for winning the cold war.¹⁶ To do so, the team examined the British colonial experience and used the 1934 Aden example to develop its initial premise.¹⁷

From an analysis of the British scheme, the Project Control team delineated five elements that made air control suitable for the United States in the nuclear era: overwhelming capability, adequate intelligence about the enemy state, a feasible objective, an indigenous control group, and survivable communications. The first of these focused on the nation’s capacity to carry out a control strategy. In particular, the Project Control team highlighted air forces and those ground forces necessary to support the air effort. Team members emphasized the ability of air forces to conduct control operations against another state.¹⁸

After confirming America’s capability to undertake a control strategy, the Project Control team identified the second air control element, intelligence. Project Control researchers viewed intelligence as the foundation for a thorough appreciation of an opponent’s society, culture, and military.¹⁹ They determined that a control strategy could not succeed without an intimate knowledge of the enemy. Thus, they concluded that air control depended on timely and accurate political, military, and economic information.²⁰ To get the material they needed, the team developed a comprehensive plan using currently available USAF assets. To address intelligence shortfalls, they built an acquisition strategy for advanced intelligence systems.²¹

After determining that the United States possessed the capability to implement a control strategy, coupled with a comprehensive intelligence blueprint, team members examined the third air control element: an objective with feasible terms. This characteristic was the key aspect of air control that distinguished it from other airpower strategies.²² The Project Control team resolved that instead of adopting “an objective of destroying the enemy will to wage war, we [could] adopt [an] objective to change the enemy will and persuade him through air pressure to accept our terms.”²³ To achieve the desired change in behavior, the “controlling” nation had to establish and present the belligerent with appropriate, achievable terms.²⁴ The mechanism devised for accepting, and complying with, those terms were an indigenous control structure.

The notion of an indigenous control group was a modification of the British army's use of neutral or moderate ethnic groups as counterweights to dominant ethnic hegemons. Colonel Sleeper derived his variation from Air-Commodore Portal's 1937 article, "Air Force Co-Operation in Policing the Empire."²⁵ In the Project Control formula it was not essential for the indigenous control group to be allied with the controlling nation, or even to agree with it; instead, it was only important that the group could implement the terms.²⁶

The final air control element, an immutable process of two-way communication, was a cornerstone of the control strategy.²⁷ "The primary purpose of establishing and maintaining communications," wrote Colonel Sleeper, "[was] to transmit propaganda, warnings, terms, and to receive reactions and acceptances."²⁸ Moreover, each element of air control depended on communications for its effectiveness. For example, the propensity to implement a control strategy was valueless to the control scheme if a government could not convey its capability to do so. Communications, therefore, were the threads that tied all of the elements together.

From these five elements of air control, the Project Control team constructed a theoretical framework with its own terminology. Their carefully crafted lexicon transformed military jargon into a political idiom. They defined air control as the use of airpower to assist in the attainment of US national objectives by means of persuasion, pressure, and administration.²⁹ Similarly, the broader term, *control*, became the essence of grand strategy by incorporating all aspects of national power.³⁰ Project Control's application terminology included air persuasion, air pressure, and air administration. Air persuasion was the first phase of air control. During persuasion, airpower would work to change the policies of another nation without resorting to lethal force.³¹ If air persuasion failed, the United States would shift into the air pressure phase. During it, airpower worked to transform the behavior of a hostile state through nonlethal or, if necessary, lethal force.³² The success of either air persuasion or air pressure produced the air administration phase. During administration airpower became a policing mechanism monitoring the behavior of the target nation.³³

Having formulated the basic strategy and defined its terms, the Project Control team focused on both historical and future applications. The Project Control hypothesis was that airpower could achieve national objectives either by threatening or actually conducting combat operations.³⁴ To validate this notion, the Project Control team examined the application of American airpower in the Pacific during World War II. A Japanese study group worked from an airpower template—that is, the study group leaders started with 1941 Army Air Corps force levels and assumed the continued acquisition of numerically and technologically superior forces. Since the ground rules permitted use of any technologies that were technically feasible before US entry into World War II, B-29s

came into play earlier than actually occurred.³⁵ With those guidelines, they examined and developed the Japanese study. Their results speculated that had America adopted a control strategy during the interwar years, airpower could have prevented Japanese seizure of Manchuria, forced Japanese troop withdrawals from China, or stopped Japan from going to war altogether.³⁶ Their conclusions so convinced the Air Staff that they directed the team to conduct a German study.

In developing their tests, each study group developed conclusions based on the premise that control was the national strategy applied by US leadership throughout the period. They obtained results by evaluating six Japanese and six German events prior to and during the war and then by calculating possible outcomes according to air control theory.³⁷ Both teams garnered plausible results, giving the Air Staff justification to commission Colonel Sleeper's most important contribution, the Russian study.

The Project Control team sought "to force the Soviet Union to accept terms that will result in the achievement of the United States national objectives in the current worldwide conflict between the Free World and Communism."³⁸ To design a scenario that would achieve this aim, team members worked with the understanding that every military employment option—including a preemptive strike—was acceptable (i.e., limited means through unlimited means).³⁹

The first step was to determine the national objectives of both nations. Accordingly, the Project Control cadre developed four likely national objectives for the United States: the elimination of Soviet expansionism; the elimination of the power apparatus that made Soviet expansion possible; the elimination of the iron curtain; and, the maintenance of the American instruments of power.⁴⁰ Likewise, they developed three probable Soviet national objectives: the maintenance of the Soviet regime, the defense of the motherland and the proletariat, and communist expansion throughout the world.⁴¹ Although these objectives generally articulated the perceived direction of each nation, they were not actual policy objectives. Rather, the Project Control team adopted them for purposes of their analysis.⁴²

After identifying national objectives, the team developed its basic assumption: "United States airpower will be maintained at quantitative and qualitative levels of significant superiority over the aerial strength of the Soviet Union."⁴³ This decision eliminated the need to evaluate capability and mirrored the team's belief that the 1953 USAF doctrine manual emphasized the decisiveness of force over the efficacy of strategy.⁴⁴ As a result, team members focused on identifying an appropriate indigenous control group.

In the Russian study, the indigenous control structure was a potential trap. Dissident groups, although most likely to welcome the disintegration of the communist regime, did not possess the prestige nor the internal unity to endear Soviet citizens to a political change. Communist party

members possessed those characteristics but were unlikely accomplices. Nonetheless, the study group's analysis led them to conclude that "no matter how dictatorial a nation is there is always a resistance group or an indigenous control force which has the capacity to take over control from the group in power."⁴⁵ Thus, the Russian study group continued its efforts to identify an acceptable control structure capable of communicating with the United States.

To help resolve the dilemma, Colonel Sleeper invited Dr. Clyde Kluckhohn, director of the Russian Research Agency at Harvard, to analyze Russia's military, political, religious, social, and economic subcultures.⁴⁶ In addition, he convinced the Central Intelligence Agency (CIA) and State Department sources to provide information on American and Soviet political, military, and economic strengths.⁴⁷ The result was an exhaustive survey of nine potential control groups.

The Project Control team examined nine population categories: the Soviet armed forces, the Communist party, the Soviet elite, national minority groups, the administrative bureaucracy, internal security agencies, the urban industrial labor force, religious groups, and the peasantry. Through an analysis of historical, cultural, political, and sociological factors, they conclude "the Soviet armed forces, particularly the Soviet army, constitute the largest and most cohesive group in Russia possessing organization, discipline, esprit de corps, and military power."⁴⁸ This deduction implied several conclusions.

The Project Control team did not conclude that the Soviet armed forces were a discontent group scheming to overthrow the communist regime. Rather, their analysis implied that if, during a crisis, the Communist party lost its capacity to govern, the Soviet Army might be capable of modifying and sustaining government functions.⁴⁹ The report suggested that this outcome was possible because the Soviet Army, under the command of Marshal Georgi K. Zhukov, held a unique position of trust with the Soviet people. Patriotism, rather than ideology, was its motivational impetus.⁵⁰ Hence, the Project Control team reasoned that the Soviet armed forces would be accountable during a control situation.

The Project Control team's analysis led a planning subgroup to propose that the most effective mechanism for containing the Soviet Union was a control strategy based on "strategic political warfare."⁵¹ Strategic political warfare combined political and military means to discredit the prestige of an opponent's political and economic leadership.⁵² In the Russian study, it would start with a blitz of carefully calculated diplomatic moves aimed at unifying Germany, disintegrating the iron curtain, and liberating all communist satellites.⁵³ Assuming that the Soviets did not move to war during the initial diplomatic assault, USAF efforts transitioned into the air persuasion phase.

The team directed the persuasion phase against the core of the problem, the Soviet government.⁵⁴ This phase encompassed several operations intended to communicate US resolve. The central premise of this phase

was that airpower could successfully intimidate Russia into coming to terms without war resulting from the intimidation.⁵⁵ Because team members believed armed conflict between the United States and Soviet Union was inevitable, they accepted the risk of war accompanying the persuasion phase.⁵⁶

To increase airpower's influence during the persuasion phase, the team envisaged two USAF operations. First, it proposed the idea of a forward air patrol. Its purpose was to move the American air defense line up to and across the North Pole, eventually establishing it along the border of Russia.⁵⁷ The forward air patrol consisted of an early warning line and airborne early warning and complemented the persuasive reconnaissance offensive.⁵⁸ The team designed the persuasive reconnaissance offensive, based on available and projected technologies, to demonstrate the vulnerability of the iron curtain with overflights by balloons, manned reconnaissance platforms, or satellites.

If these operations failed, the next measure was the pressure phase. The Project Control team expected Soviet resignation to US demands during the persuasion phase,⁵⁹ but viewed pressure operations as a credible method to achieve terms if persuasion efforts failed.⁶⁰ Pressure through airpower emphasized the direct application of military force, with an air offensive destroying Russia's long-range air and submarine capability, gaining control of its airspace, and eliminating Russian offensive capabilities.⁶¹

To achieve those military aims, the Project Control team proposed two USAF operations. First was a strategic atomic offensive. Its purpose was to ensure the security of the United States and her allies by eliminating the Soviet nuclear delivery capability.⁶² Once completed, the strategic atomic offensive spurred the armed reconnaissance offensive, which was an American second strike against reconstituted Soviet forces. Although Project Control analyses predicted that the Soviet regime would resign after the persuasion phase, they were convinced that Soviet submission would occur after the pressure phase.

Success during either persuasion or pressure operations led to the final phase, administration. The control process did not end with Soviet capitulation, a key aspect of Project Control was the implementation of administrative measures.⁶³ Once the Soviet Union accepted American terms, Project Control team members proposed that airpower would enforce a settlement by policing the airspace over the Soviet Union. Rather than invading and occupying, surface forces would serve as liaison forces "to assist the new Russian administration in establishing its power [by] maintaining control of Russia."⁶⁴ The administration phase would thus serve as the bridge to global peace and Pax Americana.

Project Control's optimistic conclusions faced a tough challenge after Colonel Sleeper presented his report for Air Staff consideration. To test his theoretical framework, the USAF war-gamed Project Control in Project Checkmate.⁶⁵ Although only the persuasion phase of the Russian study

was gamed, the results neither proved nor disproved the control concept.⁶⁶ Led by Dr. Stefan T. Possony, the Soviet players anticipated several American moves. Initial play produced Soviet actions that included a “temporary reduction in the ‘temperature’ of the cold war” through propaganda, increased intelligence activity, and more frequent surveillance of the Soviet perimeter.⁶⁷ Dr. Possony assumed that the Soviets would then counter with a vigorous diplomatic campaign to discredit the Americans. For example, the Soviet players used Western journalists to increase concern about American willingness to sacrifice Europe for US security.⁶⁸ “Particularly in France the point would be made that as a result of American aggression the Franco-Russian alliance again has become valid.”⁶⁹ Dr. Possony also assumed that the Soviets would exploit US susceptibilities to the world press, and that they would launch an aggressive campaign engineered to discredit leading American military and political leaders.⁷⁰

The probable results of these and other measures did not, however, give the Soviets an advantage. Dr. Possony postulated that “if the United States does not back down, there is a strong possibility that the Soviets would beat a hasty retreat.”⁷¹ Nonetheless, the outcome of the war game was a clear caution to US political and military leaders: “Control operations should be instituted only if there is a clear and conscious resolve not to back down, regardless of the risk of general war.”⁷²

The concept of control suggested a method for convincing another nation to alter its political or military behavior. War gaming suggested that its application depended on a nation’s resolve to carry through with every aspect of the strategy. Thus, to be successful, a nation had to be willing to take the necessary measures to ensure command of the air; follow through, if necessary, with pressure operations; and mobilize the political, economic, psychological, and educational forces necessary to rebuild the rival society. That nation also had to be willing to risk nuclear war. Ultimately, Project Control concluded that US airpower could, with very little bloodletting, dissuade the Soviets from its aggressive behavior.

According to Colonel Sleeper, President Dwight D. Eisenhower received the Project Control briefing in 1954.⁷³ Likewise, Colonel Sleeper presented it to the Joint Chiefs of Staff (JCS), CIA, State Department, National Security Council, and the service secretaries.⁷⁴ Many of the ideas found in Project Control may have influenced national policy—parallels exist with the theory of massive retaliation. Many of those scholars who worked on the project, or who received its briefing—for example, Bernard Brodie, Stefan Possony, Morris Janowitz, Paul Nitze, and Walt Rostow—continued on in government beyond the Eisenhower presidency into the Kennedy and Johnson administrations. Their influence was likely felt during the debate concerning America’s Vietnam involvement.

In the 1990–91 Persian Gulf War, air campaign planners mirrored the framework used for Project Control. Although Project Control concluded that airpower offered a credible military means for obtaining national

goals, not until Desert Storm were elements of the strategy successfully implemented.

Notes

1. The March 1953 USAF doctrine manual, Air Force Manual (AFM) 1-2, *United States Air Force Basic Doctrine*, provided the institutional framework for the airpower aspects of this debate. Between 1950 and 1952, however, doctrinal debates divided the USAF. The core of the issue was less about USAF doctrine—strategic nuclear warfare—and more about who would formulate it. In this regard, Air University ultimately lost this struggle; however, many of the key actors of this institutional battle remained on to inspire the Project Control effort. AFM 1-2, *United States Air Force Basic Doctrine*, April 1953; Raymond S. Sleeper, interviewed by author, Herndon, Va., 15–16 January 1993; Robert Frank Futrell, *Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force, 1907–1960*, vol. 1 (Maxwell Air Force Base [AFB], Ala.: Air University Press, December 1989), 379–96; and for an examination of the subject of grand strategy, detached from US political and military influences, see B. H. Liddell Hart, *Strategy* (1967; reprint, New York: Meridian, 1991). Of particular interest is his definition of grand strategy: “To co-ordinate and direct all the resources of a nation, or band of nations, towards the attainment of the political object of the war—the goal defined by fundamental policy” (322).

2. Sleeper interview; and Raymond S. Sleeper, “The Political-Psychological Aspects of Offensive Air,” TMs [photocopy], 4 February 1953, Historical Research Agency (HRA) File K239.716253-66, Maxwell AFB, Ala. Colonel Sleeper cites a 1948 conference attended by George Kennan, ambassador to Russia; Charles Bohlen, later ambassador to Russia; and Alan Evans, a State Department Sovietologist. After a briefing on USAF plans to use atom bombs in Russia, Kennan reportedly stated, “If you drop atomic bombs on Moscow, Leningrad, and the rest, you will simply convince the Russians that you are barbarians trying to destroy their very society and they will rise up and wage an indeterminate guerilla war against the West.” Bohlen extended this line of thought by suggesting, “The negative psychological results of such an atomic attack might endanger post war peace for 100 years.”

3. “A History of Project Control, 1953–1954” (Maxwell AFB, Ala.: Air War College, 1955), xv–xx. HRA File K239.042-8. Air University tapped many of the brightest post-World War II thinkers for Project Control. In an advisory capacity, Air University attracted Gen Carl “Tooey” Spaatz, Maj Gen Orvil A. Anderson, USAF, Retired, Maj Gen Hunter Harris, and Alexander de Seversky. Air University also attracted the air control expertise of Sir John Slessor, Air Marshal Sir Robert Saundby, and Air Marshal W. L. Dawson. Consultants for Project Control included Doctors Robert Butow, Eugene Emme, Morris Janowitz, Paul Nitze, and Walt W. Rostow. Air University also borrowed extensively from concurrent work at the Center for International Studies, Princeton University; Center for International Studies, Massachusetts Institute of Technology; Russian Research Center, Harvard University; the Russian Institute, Columbia University; and federal grant projects at Yale University, the University of California, Ohio State University, Vanderbilt University, University of Michigan, University of Miami (Florida), University of Maryland, and the RAND Corporation

4. The entire Project Control effort was catalogued and recorded by Charles L. Schliecker, “A History of Project Control, 1953–1954.”

5. Sleeper interview.

6. “The Concept of Control by Air and Other Means: Intelligence Requirements,” Project Control (Maxwell AFB, Ala.: Air War College, June 1954), 1. HRA File K239.042-9.

7. Sleeper interview.

8. *Ibid.*; and “A History of Project Control, 1953–1954,” tab K, 1. In addition, the airpower theories of Giulio Douhet strongly flavored the Project Control team. Colonel Sleeper borrowed many ideas from the 1942 translation of *Command of the Air*.

9. “The Concept of Control by Air and Other Means,” 30.

10. The 1 April 1953 edition of AFM 1-2 stated, “The effect of the advent of this force [airpower] in the conduct of war is to make modern war more total—its threat more imminent, its impact more sudden, its expanse more extensive, and its destruction exceedingly

more devastating. The consideration of these effects makes it mandatory that a nation evaluate its military program in terms of national survival and ultimate success in war," 17.

11. "The Concept of Control by Air and Other Means," 4; and Anne Armstrong, *Unconditional Surrender* (New Brunswick, N.J.: Rutgers University Press, 1961), 249. Anne Armstrong articulated the full implication of the unconditional surrender dogma that Project Control wished to avoid. In it, she reasoned that "the Casablanca Formula of Unconditional Surrender is symptomatic of an attitude toward war which tends to divide strategy from political goals."

12. Sleeper interview.

13. *Ibid.*; Sleeper, "The Political-Psychological Aspects of Offensive Air," 4; and Carl von Clausewitz, *On War*, trans. by Michael Howard and Peter Paret (Princeton, N.J.: Princeton University Press, 1989), 80 and 579. Colonel Sleeper was heavily influenced by the Prussian military theorist, Carl von Clausewitz. He frequently cited Clausewitz, emphasizing the distinction between the political and the military. The Project Control team built from the premise that "even the ultimate outcome of a war is not always to be regarded as final. The defeated state often considers the outcome merely as a transitory evil, for which a remedy may still be found in political conditions at some later date." Colonel Sleeper apparently also took full account of Clausewitz's dictum: "No one starts a war—or rather, no one in his sense ought to do so—without first being clear in his mind what he intends to achieve by that war and how he intends to conduct it. The former is its political purpose; the latter its operational objective."

14. "A History of Project Control, 1953–1954," tab I, 1; Sleeper, "The Political-Psychological Aspects of Offensive Air," 14; and Sleeper interview. Colonel Sleeper drew heavily from Air-Commodore Portal's description of air control during the 1934 Aden incident. Additionally, RAF interest in the Project Control effort led to frequent contact with Marshal of the RAF Sir John Slessor and Air Marshal Sir Robert Saundby, former air officer in charge at Iraq.

15. "A History of Project Control, 1953–1954," xii.

16. *Ibid.*, tab F, 3.

17. Sleeper interview.

18. Sleeper, "The Political-Psychological Aspects of Offensive Air," 25–26.

19. Sleeper interview. For instance, the Japanese study group examined the history of Japanese culture for the past 1,000 years. From that study, the group determined the various personalities present within the Japanese population. This exercise helped them identify probable indigenous control groups and their influence with the monarchy and the parliament.

20. "A History of Project Control, 1953–1954," xii.

21. "The Concept of Control by Air and Other Means," HRA File K239.042-23.

22. Under the heading "Objectives and Effects," AFM 1-2 stated,

In achieving decision, each military force is capable of producing three fundamental effects, in varying degrees—destruction, capture, and neutralization. The characteristics of their weapons and the media in which they operate give certain of the forces greater capability than others to produce one or more of the three fundamental effects. As a result, each has intrinsic to its character certain capabilities which contribute to the achievement of decision in war. Air forces find their greatest opportunities for decisive actions in dealing immediately and directly with the enemy's warmaking capacity—both in being and potential. These actions will include neutralization or destruction of the enemy's industrial capacity, control mechanisms, and forces presenting unacceptable threats.

23. Sleeper, "The Political-Psychological Aspects of Offensive Air," 26.

24. *Ibid.*

25. Sleeper interview; in addition, a description of the role played by indigenous control groups in the British experience is found in "The Role of Special Service Officers in the Air Intelligence Organization," *Royal Air Force Quarterly* 2, no. 1 (January 1931): 51–58.

26. Sleeper interview.

27. Sleeper, "The Political-Psychological Aspects of Offensive Air," 27.

28. *Ibid.*

29. "A History of Project Control, 1953–1954," tab J, 1.

30. *Ibid.*

31. Ibid.
32. Ibid.
33. Ibid., 2.
34. Sleeper interview.
35. Dr. Robert Frank Futrell, interviewed by author, Maxwell AFB, Ala., 12 January 1993.
36. "The Concept of Control by Air and Other Means," 26.
37. Based on the hypothetical application of a control strategy, the study group developed six chronologically based conclusions for the Pacific theater. They concluded that the United States missed four opportunities to prevent war: September 1931 with diplomatic leverage, July 1937 through economic embargo, September 1939 through deployment of heavy bombers to the Philippines, and July 1940 with trade agreements and military deployments to Guam and the Philippines. They also concluded that once war with Japan came, the United States missed two opportunities to bring the Japanese to terms. First, immediately after Pearl Harbor, the United States "could have shortened the war by launching a single line of attack at the earliest practicable date through the Central Pacific to the Marianas, thereby gaining air bases permitting decisive pressure to be brought against Japan." The next missed opportunity was in June 1944. At that time "the United States could have terminated the war [by] offering terms very similar to those finally accepted by the Japanese." "The Control of Japan by Air and Other Means," bk. 3, sec. 2, pt. 1 (Maxwell AFB, Ala.: June 1954), 9-10. HRA File K239.042-10.
- Again, based on the hypothetical application of a control strategy, the study group developed six chronologically based conclusions for the European theater. The United States also had four opportunities to control German ambitions: to stop rearmament in 1933, to stop German expansion in 1937 and also after the 1939 invasion of Poland, and again in December 1941 after Germany declared war on the United States. After entering the war, the United States missed two opportunities to terminate the conflict: in January 1943 and February 1944. See "The Control of Germany by Air and Other Means," bk. 2, sec. 2 (Maxwell AFB, Ala.: Air War College, June 1954), 27, 34, 44, 55, 62, and 65-66. HRA File K239.042-11.
38. "The Control of Russia by Air and Other Means," bk. 3, sec. 2, pt. 2 (Maxwell AFB, Ala.: Air War College, June 1954), 1. HRA File K239.042-12.
39. "The Concept of Control by Air and Other Means," 61. The inclusion of preemptive force application options was a direct contradiction of USAF doctrine. AFM 1-2 specifically stated "war is never the chosen instrument of United States policy," 2.
40. Ibid., 69.
41. Ibid.
42. "The Concept of Control by Air and Other Means," 68. The Project Control team recognized that "it is not within the province of the United States Air Force to determine U.S. national objectives because this problem is clearly one for the whole nation to determine, with special attention to the responsibilities of the President and Congress [yet] it is within the responsibilities of the Air Force to attempt to see U.S. national objectives so that American understanding of air power and its capability to achieve and realize national objectives can be better directed."
43. "The Concept of Control by Air and Other Means," 1.
44. Sleeper interview; and the assumption of numerically and technologically superior forces was borrowed from AFM 1-2, 1 April 1953, 17. In that document, the USAF proceeds from the expectation that "the establishment of adequate air forces in-being calculated to be decisive is therefore the paramount consideration for the security of the United States."
45. Ibid., 56; and Randall L. Schweller, "Domestic Structure and Preventive War," *World Politics* 44, no. 2 (January 1992): 235-69, especially page 268 where he argues that democratization inhibits war.
46. Sleeper interview.
47. "The Control of Russia by Air and Other Means," bk. 2, sec. 1, pt. 4, ii-iii.
48. Ibid., 336.
49. Ibid., 338.
50. Ibid., 96, 123, and 337. Marshal Zhukov represented the "most obvious symbol of [military] leadership." "Zhukov," the team determined, "has been respected essentially because he exhibits sincerity and honesty, traits greatly valued in the Russian culture.

During the war, he paid lip service to the Kremlin and to the Party, as all Russians and other Soviet citizens were forced to do. But the indications are that he did this as a matter of necessity without pretending that he was a convinced Communist or that he loved the Party leaders. It was a point of special pride to the officers and men that [it was] the Russian nationalist and Soviet patriot, and not the Communist leader who proved to be the superior of the German generals and the equal of the Western military commanders.”

51. “The Concept of Control by Air and Other Means,” 86.

52. “Strategic Political Warfare,” Project Control (Maxwell AFB, Ala.: Air War College, June 1954), 12–13. HRA File K239.042-21.

53. “The Control of Russia by Air and Other Means,” bk. 3, sec. 2, pt. 1, 1–6.

54. *Ibid.*, 18.

55. *Ibid.*, 7–9. During the persuasion phase, the control terms were presented in the form of concessions, and included the following:

- Adoption of an East-West European Locarno-type pacts, a German and Austrian peace treaty, the unification of Germany, and Soviet withdrawal from the satellite nations.

- Adoption of a Far Eastern Locarno-type pact including communist China.

- The establishment of independent, popularly elected governments in the Soviet Union’s former satellites.

- The dissolution of the Cominform.

- Limitation, inspection, and regulation of weapon manufacturing.

- The cessation of Soviet propaganda in the United States.

- Air Freedom.

- Release of all political and military prisoners.

56. *Ibid.*, 19; and Giulio Douhet, *The Command of the Air*; trans. by Dino Ferrari (1942; reprint, Washington, D.C.: Office of Air Force History, 1983), 23. The persuasion phase is an extension of Douhet’s concept of command of the air. In assuming numerically and technologically superior forces, Project Control parallels Douhet’s claim that “to have command of the air means to be in a position to wield offensive power so great it defies human imagination. It means to be able to cut an enemy’s army and navy off from their bases of operation and nullify their chances of winning the war. It means complete protection of one’s own country, the efficient operation of one’s army and navy, and peace of mind to live and work in safety. In short, it means to be in a position to win.”

57. “The Concept of Control by Air and Other Means,” 65.

58. “The Control of Russia by Air and Other Means,” bk. 3, sec. 2, pt. 1, 20.

59. Sleeper interview.

60. “The Control of Russia by Air and Other Means,” bk. 3, sec. 2, pt. 2, 7. During the pressure phase, terms shifted from concessions to demands, and they included as follows:

- Establishment of a reformed or new government.

- Removal of military and political controls from occupied areas.

- Free elections and the cessation of support for Eastern bloc Communist parties.

- Abrogation of treaties between the Soviet Union and communist China.

- UN inspection and regulation of Soviet arms capability.

- Release of political prisoners and repatriation of non-Russian prisoners.

61. *Ibid.*, 14.

62. “The Strategic Atomic Offensive,” Project Control (Maxwell AFB, Ala.: Air War College, June 1954), 6–7. HRA File K239.042-19.

63. Liddell Hart, 353. His assertion was that “the object in war is to attain a better peace—even if only from your own point of view. Hence it is essential to conduct war with constant regard to the peace you desire.”

64. “The Concept of Control by Air and Other Means,” 67.

65. “A History of Project Control, 1953–1954,” 197.

66. *Ibid.*, 209.

67. Stefan T. Possony, “Outline of a Hypothetical Soviet Plan of Operations,” Project Control (Maxwell AFB, Ala.: Air War College, 22 July 1954), 3. HRA File K239.716254-99.

68. *Ibid.*, 4.

69. Ibid., 8.
70. Ibid., 9.
71. Ibid., 14.
72. Ibid., 16. Dr. Possony's final assessment states his belief that a firm US resolve to use a control strategy could neutralize the counterstrategy he developed.
73. Sleeper interview.
74. "A History of Project Control, 1953-1954," 207-8.

Chapter 4

The Persian Gulf War from 1990 to 1991

On 2 August 1990, Iraqi army units, supported by heavy armor and air forces, invaded Kuwait. Within 24 hours the United Nations adopted Security Council Resolution #660, condemning Iraq's invasion and demanding an immediate withdrawal.¹ Similarly, the United States responded by invoking the Carter doctrine.²

To counter the Iraqi invasion, President Bush initially dispatched two carrier battle groups, the 82d Airborne Division, and the 1st Tactical Fighter Wing.³ Although he originally emphasized political and economic actions to reverse Iraqi aggression, with this deployment of military might President Bush signaled his willingness to use force, if diplomacy failed, to remove Iraqi troops from Kuwait.⁴

The earliest UN response focused on the root cause of Saddam Hussein's invasion: economic gain. The Iraqi-induced war with Iran, lasting from 1980 until 1988, severely drained the Iraqi economy.⁵ Intense economic hardships resulting from the war, exacerbated by plummeting oil prices, stymied Iraq's economic recovery.⁶ Desperate for capital, Saddam accused Kuwaiti officials of taking deliberate steps to deprive Iraq of its wealth.⁷ Hence, on 2 August, in the guise of a religious liberator, Saddam carried out his often-made threat against Kuwait.⁸ By 25 August, however, with the passage of trade sanctions, the United Nations had taken steps to negate any possible Iraqi dividend from the invasion.⁹

The United States openly supported the UN's efforts to invalidate Iraq's aggression. In August the House of Representatives froze Iraqi assets in the United States and banned trade with Iraq.¹⁰ Unfortunately, economic sanctions and diplomatic endeavors failed to oust Saddam's forces from Kuwait. As each consecutive diplomatic effort proved fruitless, President Bush searched for other solutions.

During this period United States Central Command (USCENTCOM) and Pentagon planners crafted several military alternatives to evict the Iraqi army from Kuwait. Each approach subscribed to the precepts of the US Army's ALB doctrine, and even the most promising anticipated 8,000 wounded and 2,000 dead.¹¹ In contrast, Colonel Warden—the deputy director for war-fighting concepts development in the Headquarters USAF Directorate of Plans—proposed an alternative plan using airpower as the dominant mechanism to dislodge Iraqi forces. Dubbed Instant Thunder, the three-phase air campaign plan proposed to muzzle Iraq's political and military leadership, eliminate Iraqi air defenses, and reduce the combat capability of Saddam's fielded forces by 50 percent.¹² Gen H. Norman Schwarzkopf, USCENTCOM commander in chief, embraced Colonel

Warden's scheme as the basis for Desert Storm. Notably, air control philosophy was a key influence on Colonel Warden's design.¹³

In framing his plan, Colonel Warden's conception of air warfare fell outside of the traditional domain of war, in which two or more armies clashed on the battlefield.¹⁴ ALB structure represented this traditional domain, with emphasis placed on the land engagement. The strategy was based to a large extent on the ruminations of the Prussian military theorist, Carl von Clausewitz. Warden maintained that in the past, victory ultimately went to the first army that put the enemy's leadership at risk by threatening to annihilate its military power.¹⁵ In contrast, he believed that airpower made such battlefield efforts irrelevant.¹⁶ For Colonel Warden, the most effective use of military power was against the sources of an enemy's strength, not that strength's manifestation. Thus, in war, the enemy's leadership was a much more valuable prize than its fielded forces.¹⁷ The best mechanism for striking the source of an enemy's might was airpower, which could attack the source directly.

In developing an airpower solution to Iraq's invasion of Kuwait, Colonel Warden designed a hybrid plan that included elements from the British air control experience. Significantly, he relied on Air Marshal Trenchard's thesis that airpower possessed the capacity to threaten every element of a nation's power.¹⁸ Instant Thunder codified this belief by proposing simultaneous attacks against leadership targets, weapons production facilities, and transportation systems.¹⁹ In addition, Colonel Warden saw in air control a method for occupying Iraq with airpower.²⁰ Administering a cease-fire and policing UN resolutions were natural tasks for air and space forces. The air campaign plan thus became a prescription to counteract Iraqi aggression. Ultimately, the plan also became the solution.

American efforts in the Persian Gulf evolved in three stages. The Desert Shield stage, or stage one, began on 8 August 1990 and continued until 16 January 1991. For coalition forces, Desert Shield combined diplomatic, economic, and military actions to encourage Iraq's withdrawal from Kuwait.²¹ Saddam spent this time establishing and strengthening defensive positions. The Desert Storm stage, or stage two, began on 16 January 1991 and concluded on 2 March 1991. Desert Storm consisted of military operations by both sides, with the allies emphasizing their superior airpower. The post-Desert Storm stage, or stage three, began on 2 March 1991. Stage three operations supported armistice agreements and UN resolutions defining the postwar environment. Colonel Warden developed his plan for the air campaign during stage one.

Diplomatic actions included the president's reliance on the United Nations and coalition members to present a unified stand against Saddam Hussein.²² Economic moves included the UN-sponsored sanctions against Iraq, as well as those imposed by Congress.²³ Military actions included the enforcement of sanctions and use of airpower—to deter further Iraqi aggression and to threaten more severe actions to come—before a stage two campaign.²⁴

Desert Storm was an air war with ground forces playing a supporting role. Presented first to General Schwarzkopf and then to Chairman of the JCS Colin L. Powell, Colonel Warden's basic plan was approved with surprisingly few changes.²⁵ Thereafter, Lt Gen Charles A. Horner, commander of USCENTCOM Air Forces, oversaw the planning effort. He and his staff expanded Colonel Warden's basic design to accomplish five objectives: sever the command links between Saddam Hussein and Iraqi troops in Kuwait, gain air superiority, eliminate Iraq's weapons of mass destruction and their production facilities, destroy Iraq's offensive military capability, and paralyze Iraq's army in Kuwait.²⁶ To maximize the enemy's pain, air planners based their design on the concept of parallel warfare, in which aircraft would attack targets simultaneously rather than sequentially.²⁷ As a result of sound planning and skillful execution, the air campaign "helped isolate Iraq's leadership, seriously degraded the ability to conduct effective offensive and defensive operations, and reduced the threat to regional stability and security."²⁸

Stage three began with Iraq's acceptance of a cease-fire.²⁹ During the 2 March 1991 cease-fire discussion with Iraqi officials at Safwan, Iraq, General Schwarzkopf designated a line of demarcation and placed restrictions on Iraq's future military activities.³⁰ Subsequently, Iraqi Kurds and Shi'ites attempted to overthrow Saddam Hussein's regime, but their efforts were met with "approved" lethal force unanticipated by General Schwarzkopf at the time of the cease-fire.³¹ As a result of Saddam's continued repression of the rebels, on 27 August 1992 the United States, Great Britain, and France established a no-fly zone in two areas over Iraq.³² The powers warned that Iraqi aircraft flying in these areas would be shot down by coalition air forces.³³

Many parallels exist between the concepts guiding the Desert Storm air campaign and those that had served as cornerstones for RAF air control in the 1920s and USAF Project Control in the 1950s. In each case, the requirement for airpower stemmed from a hostile act—or a belligerent posture—that threatened great power vital interests. In the Aden example, the hostile act was a raid on a caravan.³⁴ The aggressive rise of Soviet-styled communism spawned Project Control.³⁵ Iraq's 1990 invasion of Kuwait triggered the Persian Gulf War.

Stage one of the Persian Gulf War paralleled both the persuasion phase of Project Control and the first two stages of RAF air control. Stage one in the Gulf matched the persuasion phase's "use of power to produce policies in a hostile or potentially hostile nation which accord with the policies of the United States without resorting to the use of offensive firepower with that nation."³⁶ Likewise, the first stage of air control strategy was the presentation of an ultimatum.

The first British response to aggression in Aden was the presentation of grievances against those acting in defiance of the law. "A summons was immediately sent to the Quteibi Sheikh by aeroplane, telling him to meet a political officer at a landing ground in neighboring 'neutral' territory

next day.”³⁷ Thereafter, the British presented the sheik with terms outlining a standard of behavior and the result of failing to adhere to that standard. On this occasion, British expectations were clear and simple: “hand over (a) a fine of 500 dollars, and (b) either the actual raiders . . . or, alternatively, approved hostages for the guilty sub-sections.”³⁸ Similarly, the British clearly defined the cost of continued aggression, warning that until the terms were met the “villages and fields may be bombed or fired on at any time by day or night, and you are particularly warned not to touch any bombs that do not go off, as if you do so you will probably get killed.”³⁹

In a like manner, the first UN response to Iraqi aggression against Kuwait was the presentation of grievances. Security Council Resolution #660 cited Articles 39 and 40 of the *Charter of the United Nations* as justification for condemning the Iraqi invasion,⁴⁰ demanding an immediate and unconditional withdrawal of Iraqi forces, and encouraging Iraq and Kuwait to negotiate a settlement.⁴¹ Saddam Hussein’s failure to react resulted in Security Council Resolution #661, which imposed economic sanctions upon Iraq;⁴² Security Council Resolution #665, which authorized maritime enforcement of sanctions;⁴³ Security Council Resolution #670, which authorized air enforcement of sanctions;⁴⁴ and Security Council Resolution #678, which authorized “all necessary means . . . to restore international peace and security in the area.”⁴⁵

An outgrowth of both the Project Control concept of air persuasion, and the second stage of air control, was a cooling off period. Project Control held that the tremendous flexibility of airpower would eliminate the need for absolute victory found in unconditional surrender and gave the Soviets time to acknowledge and debate American terms.⁴⁶

In Aden the British gave the Quteibis 10 days. During this time, airpower helped curb the tribe’s ambitions for further aggression.⁴⁷ Air-Commodore Portal suggested that “what really matters is that the Government should act quickly in issuing its ultimatum, not that the Air Force should begin its blockade at once.”⁴⁸ He further emphasized, “So long as the Government has acted at once, there will be no encouragement for the idea that it is irresolute or impotent.”⁴⁹ In like manner, the government of Iraq received five and one-half months to comply with UN demands. The main motive behind this delay was the belief that sanctions would work. Many members of Congress considered sanctions equally effective and less lethal than combat.⁵⁰ Nonetheless, on 29 November 1990, when the United Nations determined that sanctions would not persuade Saddam Hussein to withdraw, they established 15 January 1991 as the terminus of their patience.⁵¹

Stage two of the Persian Gulf War paralleled the pressure phase of Project Control, which sought to use “firepower to control the air and to increase pressure sufficiently to induce acceptance of terms agreeable to the United States.”⁵² Stage two of the Gulf War also mirrored stages three and four of RAF air control. The third stage of the air control strategy was the delivery of a threat that warned of an impending attack. Project

Control also stressed the importance of communications with the hostile force and advocated a diplomatic overture—sustained by the threatened application of overwhelming airpower—before escalating to combat operations.⁵³

In Aden the threat of an attack in 24 hours was relayed by aerial message.⁵⁴ During the Persian Gulf War, Secretary of State James Baker conveyed an eleventh-hour notice that failed to convince Iraqi Foreign Minister Tariq Aziz “that Iraq was about to make another miscalculation in believing that the allies would not use military force to liberate Kuwait.”⁵⁵

In the fourth stage of the RAF air control strategy, combat airpower was used to obtain compliance with demands. Likewise, according to Project Control, once national security leaders deemed that further persuasion was pointless, air combat operations commenced.⁵⁶ In Aden air-action began minutes after the allotted time had expired. Thereafter, during hours of daylight, the RAF flew continuous patrols. In addition, the RAF flew on “nights when there was enough moon to enable pilots to fix their positions accurately. On other nights [they] relied on delay-action bombs dropped during the previous day near some of the more important places.”⁵⁷ The emphasis during these operations was on dislocation, not destruction. The RAF made every effort to ensure the safety of noncombatants and of combatants as well.⁵⁸

Similarly, air-action began immediately after Saddam’s deadline had passed, and allied forces in the Persian Gulf War went to great lengths to avoid civilian casualties.⁵⁹ In addition, the air campaign succeeded in severing the Iraqi army from its centralized control structure in Baghdad.⁶⁰ Once ground war began, the Iraqi army suffered severely from this lack of command and control. The air war had paralyzed the Iraqi state and the Iraqi army in Kuwait.⁶¹ Moreover, had Saddam Hussein fallen, four indigenous control groups—dissident Baath and army officers, communists, Kurds, and Shiites—lay poised to wrest control from Baath loyalists.⁶² Unlike Project Control, however, complicity with these indigenous control groups was apparently not part of the Persian Gulf scheme. Nonetheless, successful military operations led to the administration of the peace.

Stage three of the Persian Gulf War paralleled the administration phase of Project Control. The emphasis of the administration phase was not only occupation but also the control of a nation, including “air supplying and supporting an indigenous control group [and] policing the country from the air.”⁶³ Although seeking ideological submission, air administration did not demand the surrender of military or economic power. Rather, it sought to transform Soviet military and economic power into something more compatible with the West.⁶⁴ It envisioned limited occupation by surface forces and the imposition of a no-fly zone.⁶⁵

The administration phase of Project Control also mirrored stage five of RAF air control: the submission of the enemy. In Aden the British did not seek unconditional surrender. They merely sought compliance with their

ultimatum.⁶⁶ They then sought reconciliation by establishing a “normal routine of peace control.”⁶⁷ To enhance peaceful relations the RAF adopted civil affairs programs, such as medical and educational programs. “The essence of air control,” wrote Sqdn Ldr R. A. Cochrane, “is an accurate and detailed knowledge of the people [and] in a large and undeveloped country, such as the Aden Protectorate, frequent visits would be impracticable without the use of aircraft.”⁶⁸ In this manner, government extended its power and control through airpower.

Likewise, the coalition did not seek the unconditional surrender of Iraq but compliance with applicable UN resolutions.⁶⁹ Moreover, as a result of UN resolutions, a great part of the postwar administration of Iraq included the destruction of nuclear, biological, and chemical weapons storage facilities and production capabilities.⁷⁰ President Bush chose airpower as his mechanism to enforce the UN inspections.⁷¹ Since establishing the no-fly zone (which covers the areas north of the 36th parallel and south of the 32d parallel), air and space assets have continuously monitored Iraqi compliance with international demands.

On four occasions airpower voided Iraqi transgressions. In the first instance, on 27 December 1992, after the United States had tolerated numerous examples of Iraqi cat-and-mouse tactics, an F-16 shot down one of four Iraqi fighters that had violated the southern exclusion zone.⁷² One week later, Saddam Hussein moved anti-aircraft defenses into that area. After several heated exchanges between US and Iraqi officials, President Bush issued an ultimatum demanding removal of the weapons.⁷³ Shortly after the deadline passed, Iraqi officials announced they had complied with the ultimatum.⁷⁴ Reconnaissance showed otherwise, so on 13 January 1993 US and allied planes attacked the missile sites.⁷⁵ Twice thwarted in his attempts to regain control of the air over Iraq, Saddam Hussein chose to prevent UN inspectors from traveling in the non-exclusionary zone.⁷⁶ Thus, on 17 January, when Saddam Hussein forbade UN inspectors from entering a building complex suspected of housing nuclear weapons production machinery, President Bush ordered the facility destroyed.⁷⁷ One day later, US aircraft again attacked Iraqi anti-aircraft positions in the exclusionary zone.⁷⁸ As a result of the effective and efficient use of airpower to administer internationally acknowledged discipline, Saddam Hussein yielded to US and UN demands.⁷⁹

In the Persian Gulf, autonomous airpower was the predominant application for air operations. Yet, auxiliary airpower became an essential factor in the ground campaign. In a control strategy both applications provide the political and military leadership with key elements for victory.

An airpower strategy achieved American objectives in the Persian Gulf War. Framed in the likeness of the air control and Project Control paradigms, the application of airpower in the Gulf contained the core of each: a persuasion element, a pressure element, and an administration element. Future applications may rely on parallels with the Persian Gulf model.

Notes

1. Senate, *Crisis in the Persian Gulf Region: U.S. Policy Options and Implications*, 101st Cong., 2d sess., 3 December 1990, 640.
2. President Jimmy Carter, "The State of the Union," in *Weekly Compilation of Presidential Documents* 16, no. 4 (28 January 1980): 197. The Carter doctrine declares that "an attempt by any outside force to gain control of the Persian Gulf region will be regarded as an assault on the vital interests of the United States of America, and such an assault will be repelled by any means necessary, including military force."
3. Senate, *Crisis in the Persian Gulf Region*, 667.
4. President George H. W. Bush, "Address to the Nation by President George Bush, Washington, D.C., Aug. 8, 1990," in *Defense Issues* 5, no. 32: 1.
5. Efraim Karsh and Inari Rautsi, *Saddam Hussein: A Political Biography* (New York: Free Press, 1991), 201. The authors record that "neither Hussein's domestic efforts nor his international maneuvers could disguise the fact that Iraq had emerged from the war a crippled nation. The Iraqi economy was wrecked. Economic estimates put the cost of reconstruction at \$230 billion."
6. Karsh and Rautsi, 202; and Paul K. Davis and John Arquilla, *Deterring or Coercing Opponents in Crisis: Lessons from the War with Saddam Hussein* (Santa Monica, Calif.: RAND, 1991), 7-8. Karsh and Rautsi identify three problems facing Hussein: Iraq's foreign debt was \$80 billion; Iraq's annual oil revenue was only \$13 billion; and foreign creditors refused to loan Iraq any more money.
7. Karsh and Rautsi, 214.
8. *Ibid.*, 219.
9. Clyde R. Mark, *Congress and Iraq, 1990* (Washington, D.C.: Congressional Research Service [CRS], 1992), CRS-16. All dates in this chapter reference eastern standard time.
10. *Ibid.*, CRS-17.
11. H. Norman Schwarzkopf, *It Doesn't Take a Hero* (New York: Bantam Books, 1992), 356-60.
12. *Ibid.*, 319-20; and James P. Coyne, "Plan of Attack," *Air Force Magazine* 75, no. 4 (April 1992): 40-46.
13. John A. Warden III, interviewed by author, Maxwell AFB, Ala., 1 March 1993.
14. *Ibid.*
15. John A. Warden III, "Employing Air Power in the Twenty-first Century," in *The Future of Air Power in the Aftermath of the Gulf War*, eds. Richard H. Shultz Jr. and Robert L. Pfaltzgraff Jr. (Maxwell AFB, Ala.: Air University Press, 1992), 62; and Carl von Clausewitz, *On War*, trans. by Michael Howard and Peter Paret (Princeton, N.J.: Princeton University Press, 1989), 181. Clausewitz wrote, "The destruction of the enemy's forces and the overthrow of the enemy's power can be accomplished only as a result of an engagement, no matter whether it really took place or was merely offered but not accepted."
16. *Ibid.*, 62.
17. *Ibid.*, 63-65.
18. Warden interview; Warden, "Employing Air Power in the Twenty-first Century," 59-61; Marshal of the Royal Air Force the Viscount Hugh M. Trenchard, *Air Power: Three Papers* (London: Air Ministry, 1948), 14-15; and idem, "Aspects of Service Aviation," *Army Quarterly* 2, no. 1 (April 1921): 21. Additionally, neither Air Marshal Trenchard nor Colonel Warden discount the need for surface forces. Rather, both hint that a new form of warfare has emerged that requires armies to focus their strategy and doctrine on supporting the air effort rather than the other way around.
19. Warden, "Employing Air Power in the Twenty-first Century," 70-77.
20. Warden interview.
21. *Charter of the United Nations* (Washington, D.C.: Government Printing Office, 1946), 13-15; Senate, *Crisis in the Persian Gulf Region*, 640-41, and 659; Bush, 1; idem, "The Persian Gulf: The Deficit Problem," delivered before a joint session of Congress, Washington, D.C., 11 September 1990, in *Vital Speeches of the Day* 56, no. 24 (1 October 1990), 739; and Mark, CRS-17, 22-24, 27, and 32. Based upon Articles 39-51 of the *Charter of the United Nations*, the UN Security Council passed 12 resolutions relating to the Iraqi invasion. In his testimony before the Senate Armed Services Committee, Secretary of Defense Dick Cheney outlined the resolutions and expressed US support. He emphasized the historic significance of Resolution 678, when "for the first time in 40 years,

the United Nations Security Council authorized the use of all means necessary to implement its policy, its demand for the complete and total withdrawal of Iraqi forces from Kuwait." Yet, support in the UN did not necessarily translate into support on the field of battle. In that regard, President Bush engaged in coalition building. His 8 August address to the nation indicated that he was already at work discovering which nations were reliable partners and which were not. In his 3 December 1990 testimony before the Senate Armed Services Committee, Secretary of Defense Cheney identified 26 "countries with forces in place." At that time, he listed Argentina, Australia, Bahrain, Bangladesh, Belgium, Canada, Denmark, Egypt, France, Germany, Greece, Italy, Kuwait, Morocco, Netherlands, Niger, Norway, Oman, Pakistan, Qatar, Saudi Arabia, Senegal, Spain, Syria, United Arab Emirates, and the United Kingdom.

Although President Bush stated up front that he would not negotiate with Iraq, he "publicly invited Iraqi Foreign Minister Tariq Aziz to come to Washington in December and offered to dispatch Secretary of State James Baker to Baghdad to meet with Iraqi President Saddam Husayn [sic] in an attempt to find a diplomatic solution to the Persian Gulf crisis." After a series of proposals and counterproposals, diplomatic meetings occurred on 12 December and 17 December and a final meeting took place in Geneva on 9 January 1991. After this lengthy confrontation between Iraq's foreign minister and the US secretary of state, "Secretary Baker emerged . . . to tell the press that the attempt to find a peaceful accommodation had failed."

Although early congressional activity unanimously favored the administration's efforts, support waned as the rhetoric of combat intensified. On 8 January 1991, however, the president requested a congressional resolution supporting UN Resolution 678. On 12 January, Congress approved five resolutions, stipulating that "use of force must be preceded by a Presidential determination submitted to Congress that all peaceful means to settle the dispute with Iraq had failed." On 16 January 1991, "President Bush submitted to Congress a certification . . . that said all diplomatic efforts to resolve the Iraq-Kuwait crisis had failed and that he had decided to use military force."

22. Analyses of this period of diplomacy were produced by Steven Greffenius and Jungil Gill, "Pure Coercion vs. Carrot-and-Stick Offers in Crisis Bargaining," *Journal of Peace Research* 29, no. 1 (February 1992): 39-52; and Bob Woodward, *The Commanders* (New York: Simon and Schuster, 1991).

23. Mark; and Les Aspin, *The Aspin Papers: Sanctions, Diplomacy, and War in the Persian Gulf Crisis*, Significant Issues Series 13, no. 2 (Washington, D.C.: Center for Strategic Studies, 1991).

24. During stage one, USCENTCOM leaders designated US naval forces for maritime interception. "Through April 1991, over 9200 merchant ships were challenged, over 1200 were boarded for inspection, and at least 67 were diverted for carrying prohibited cargo." Likewise, USCENTCOM valued airpower to deter further Iraqi aggression. The air threat, real or perceived, influenced Saddam's decision to place foreign nationals, "hostages," at "strategic targets inside Iraq and Kuwait." *The United States Navy in "Desert Shield," "Desert Storm"* (Washington, D.C.: Office of the Chief of Naval Operations, Department of the Navy, 1991), 57; Woodward, 248; Schwarzkopf, 312; and Senate, *Crisis in the Persian Gulf Region*, 639. Although several works attempt to synthesize the military option during stage one, the best source of information about the military option is *Conduct of the Persian Gulf War*, Final Report to Congress (Washington, D.C.: Department of Defense, 1992).

25. Schwarzkopf, 319-20; and Coyne, 43.

26. Coyne, 45.

27. Warden, "Employing Air Power in the Twenty-first Century," 78-79.

28. *Conduct of the Persian Gulf War*, 142.

29. Alvin Z. Rubinstein, "New World Order or Hollow Victory?" *Foreign Affairs* 70, no. 4 (Fall 1991): 53-65.

30. Schwarzkopf, 488.

31. *Ibid.*, 489.

32. President George H. W. Bush, "'No-Fly Zone' in Southern Iraq," in *US Department of State Dispatch* 3, no. 35 (31 August 1992): 682. The "no-fly zone" was thought necessary as a policing mechanism for UN Security Council Resolution 688, which sought to end Saddam Hussein's persecution of the Kurds. House, *U.N. Security Council Resolutions*

on Iraq: *Compliance and Implementation*, report prepared by the CRS, 102d Cong., 2d sess., March 1992, 37-38.

33. Bush, "No-Fly Zone," 682.

34. Air-Commodore C. F. A. Portal, "Air Force Co-Operation in Policing the Empire," *RUSI Journal* 82, no. 526 (May 1937): 351.

35. "The Concept of Control by Air and Other Means," Project Control (Maxwell AFB, Ala.: Air War College, June 1954), 62. HRA File K239.042-9.

36. *Ibid.*, 133.

37. Portal, 351.

38. *Ibid.*

39. *Ibid.*, 352.

40. *Charter of the United Nations*, 13; and ARTICLE 39: The Security Council shall determine the existence of any threat to the peace, breach of the peace, or act of aggression and shall make recommendations, or decide what measures shall be taken in accordance with Articles 41 and 42, to maintain or restore international peace and security. ARTICLE 40: In order to prevent an aggravation [sic] of the situation, the Security Council may, before making the recommendations or deciding upon the measures provided for in Article 39, call upon the parties concerned to comply with such provisional measures as it deems necessary or desirable. Such provisional measures shall be without prejudice to the rights, claims, or position of the parties concerned. The Security Council shall duly take account of failure to comply with such provisional measures.

41. "Documents: United Nations Security Council Resolutions Relating to the Crisis in the Gulf," *Strategic Studies* 14, nos. 1 and 2 (Autumn and Winter 1990-1991): 114.

42. *Ibid.*, 114-16 and 128-30.

43. *Ibid.*, 117-18.

44. *Ibid.*, 121-23.

45. *Ibid.*, 127.

46. "Control Terms for Resolving Conflict with Russia," Project Control (Maxwell AFB, Ala.: Air War College, June 1954), 2-3. HRA File K239.042-20.

47. Portal, 352. Because the ultimatum threatened coercive action, the tribes lived in the fear of an RAF attack.

48. *Ibid.*

49. *Ibid.*

50. Mark, CRS-29.

51. "Documents," 127.

52. "The Concept of Control by Air and Other Means," 133.

53. *Ibid.*, 59-60.

54. Marshal of the Royal Air Force Sir John Slessor, *The Central Blue* (London: Cassell and Co., 1956), 63.

55. Mark, CRS-27.

56. "The Concept of Control by Air and Other Means," 60.

57. Portal, 352-53.

58. Slessor, 66-67.

59. Warden, "Employing Air Power in the Twenty-first Century," 70.

60. *Ibid.*, 78; and *Conduct of the Persian Gulf War*, 151-54.

61. *Ibid.*

62. Fred Halliday, "The Gulf War and Its Aftermath: First Reflections," *International Affairs* 67, no. 2 (2 April 1991): 227-28.

63. "The Concept of Control by Air and Other Means," 61.

64. Raymond S. Sleeper, "The Political-Psychological Aspects of Offensive Air," TMs [photocopy], 4 February 1953, Maxwell AFB, Ala., 30-31. HRA File K239.716253-66.

65. *Ibid.*, 31.

66. Slessor, 63.

67. The Honourable Sqdn Ldr R. A. Cochrane, "The Work of the Royal Air Force at Aden," *RUSI Journal* 76, no. 501 (February 1931): 97.

68. *Ibid.*

69. "Documents," 114-27. UN terms in Security Council Resolution #660 required the removal of Iraqi forces from Kuwait as the sole requisite for complying with UN demands.

70. *U.N. Security Council Resolutions on Iraq*, 27-76.

71. Bush, "No-Fly Zone," 682.

72. Michael Gordon, "U.S. Shoots Down an Iraqi Warplane in No-Flight Zone," *New York Times*, 28 December 1992, A1.

73. Gerald F. Seib, "U.S. and Iraq Appear Headed for Showdown," *Wall Street Journal*, 11 January 1993, A3E.

74. Michael Gordon, "Iraq Given Friday Deadline on Missiles," *New York Times*, 7 January 1993, A8.

75. R. W. Apple Jr., "U.S. and Allied Planes Hit Iraq, Bombing Missile Sites in South in Reply to Hussein's Defiance," *New York Times*, 14 January 1993, A1.

76. Youssef M. Ibrahim, "Iraq, As Threatened, Prevents U.N. Inspectors from Flying in on Own Plane," *Times* (New York), 11 January 1993, A6; and Michael Gordon, "Iraq Refuses to Assure the Safety of Inspectors' Flights in South," *New York Times*, 17 January 1993, A1.

77. Michael Gordon, "Bush Launches Missile Attack on a Baghdad Industrial Park as Washington Greets Clinton," *New York Times*, 18 January 1993, A1.

78. Thomas L. Friedman, "U.S. Leads Further Attacks on Iraqi Antiaircraft Sites; Admits Its Missile Hit Hotel: Limiting the Response," *New York Times*, 19 January 1993, A1.

79. Michael Gordon, "Iraq Says It Won't Attack Planes and Agrees to U.N. Flight Terms," *New York Times*, 20 January 1993, A1.

Chapter 5

Assessing Air Control

After the Persian Gulf conflict, USAF leaders have debated the proper size, shape, and role of their force.¹ Included in those debates has been a discussion of the appropriate strategy to guide the service. Both air control and Project Control offer interesting possibilities. These control strategies had provided Great Britain and the United States with tangible frameworks for applying airpower; however, there were flaws. This examination of the British and American models that highlights both prospects and pitfalls of a control strategy may prove useful for the generals who develop the USAF's future strategy, the staff officers who may plan an air campaign on the plan, and the airmen who may execute that plan.

The British air control model emerged during airpower's infancy. In Iraq and Aden, the ultimate goal of most air control operations was compliance with government standards. The RAF employed a coercive airpower strategy that aimed to dislocate tribal life by destroying or threatening to destroy the source of a tribe's sustenance. As in the Aden example, the British discovered that separating a tribe from its livelihood normally resulted in revolt against a tribal leader's authority. Against Middle Eastern tribes, they sought immediate results; however, they also prepared for prolonged actions. In many respects, the Middle East was a laboratory in which British strategists analyzed and expanded their understanding of airpower. During those tests, the RAF displayed different characteristics of airpower, such as speed, range, and maneuverability, which helped them refine their control operations. Hence, the experience helped the British determine which airpower principles worked in a control framework.

Air control enabled the RAF to develop a unified command structure. Air Marshal Trenchard extolled the virtue of combining air and ground forces with clearly defined objectives under one commander.² This arrangement was one of his enduring legacies. He believed airpower was indivisible, and that "time and space problems in aviation differ entirely from those which confront the naval or military commander."³ As a result of his emphasis on unity, a control strategy gave British political and military leaders the leverage to develop, assess, and alter operations as needed.

The Sheik Mahmud incident demonstrated that process. In that instance, the RAF initially played a secondary role because the Iraqi government planned a land-based operation. Unfortunately, Iraqi territory proved indefensible without a more extensive military infrastructure or adequate transport. As a result, early operations favored the rebels. Once the Iraqi government determined it needed RAF assistance, airpower

shifted from a supporting to a primary role.⁴ Ultimately, the RAF, aided by the Iraqi army, drove the rebels out of the villages into the mountains, finally forcing them to flee into Persia.⁵ In that example, using both auxiliary and autonomous airpower, air control gave political and military leaders a strategy that conformed to the situation—airpower enabled them to bypass obstacles that stalled ground efforts.

Airpower overcame many of the obstacles that plagued the British army. In particular, it decreased the amount of time needed for punitive operations by avoiding austere terrain. For instance, the British army had tracked Somaliland's Mad Mullah through marsh and scrub for 20 years without success. Airpower avoided the need to confront the environment to the same degree as ground forces. A mix of auxiliary and autonomous operations unexpectedly neutralized the Mad Mullah and his support after only three weeks of combat.⁶ In Iraq, the RAF also proved capable of rapidly resolving a political crisis. There, a land-based punitive column normally took from several days to several weeks to outfit and configure before responding to a plea for assistance. The British conducted autonomous punitive action within hours of the infraction.⁷ Again, as in Somaliland, the ability to fly over unfriendly terrain worked to the RAF's benefit.

A related advantage was the ability to contain rebellion. Time was often a critical element in the government's response to a crisis. Once an infraction occurred, until the land-based punitive column reached the insurgents, rebellion had generally spread to neighboring tribes. Airpower's "immediate defeat of the earliest offenders . . . stifled many a rising which subsequently developed into a small war."⁸ Such prompt operations required timely information. Consequently, the RAF embraced a strong intelligence network, centered around their Special Service Officer Corps, and developed good communications capabilities, enhanced by developments in telegraphy and radio.⁹ The RAF's responsiveness was a key ingredient in air control's success.

An air control strategy produced economic benefits as well. In part, those stemmed from replacing dispersed and remote army garrisons with centrally located RAF units. By adopting air control, the British government reduced its manpower commitment to Iraq, Aden, Palestine, and Transjordan by 80 percent.¹⁰

The RAF further saved money by emphasizing operational simplicity. Although they usually began an operation with heavy flying, RAF aviators devised various techniques to magnify their effect while lessening their effort. Generally, they varied their combat patrol techniques, creating the impression in the rebel tribe of an RAF presence much larger than actually existed; however, innovative bomb fusing options, such as time-delayed bombs dropped before darkness or inclement weather halted aerial operations, also proved advantageous.¹¹ They stressed those techniques to preserve their aircraft, which were susceptible to the wearing effects of desert exposure and to obtain as many sorties as possible

from a limited pool of aviators.¹² The British thus achieved greater resource efficiency—and effectiveness—than they had originally promised.¹³

Unfortunately, in spite of both its efficiency and its effectiveness, the RAF lacked the capacity to deliver weapons consistently with precision. The fleet of biplanes the RAF operated in the Middle East had primitive sighting devices for both their bombs and their machine guns.¹⁴ Hence, accurate bombing was highly dependent upon the pilot's skill and his level of training. While emphasizing simplicity, RAF aircraft contained no mechanism to help pilots discriminate between combatants and noncombatants. Thus, in Palestine airpower was impotent against urban rioters who mixed with innocent civilians.

The RAF could do little to avoid some civilian casualties. Despite extensive efforts to avoid injuring or killing civilians—through leaflet drops and the use of aircraft-mounted loudspeakers—the RAF could not prevent noncombatant losses. The RAF considered its operations more humane than those previously conducted by the British army, but it nonetheless faced consistent complaints from the media and parliament.¹⁵ As a result, the Air Ministry became insensitive to the outcry, regretting the losses but acknowledging that civilian casualties were unavoidable.¹⁶

Although the British used control tactics elsewhere in the empire, they confined their use of the air control strategy to the Middle East. The RAF had complete mastery of the skies in that region—there was no serious impediment to control operations—and hardly tested its control principles against a comparable military power. Only Yemen, which possessed its own air force and an army of 6,000 Turkish-trained regulars and 10,000 irregulars, proved any match for British military might.¹⁷ Yet, when the RAF clashed with Yemeni forces during a border dispute with Aden, the Yemeni withheld their air force from the contest.¹⁸

By confining their air control strategy to the Middle East, the British limited the RAF to operations against agrarian enemies. While it gained valuable insights for conflicts against such foes in the future, the emphasis prevented the RAF from demonstrating a legitimate capability to control industrialized areas. Thus, the successful use of an air control strategy against an industrialized enemy remained a hypothetical proposition.

Within the Middle East, Palestine presented the RAF with difficulties it did not encounter elsewhere. Within Palestine's urban areas lived tremendously diverse cultural, ethnic, and religious communities. A fragile, peaceful coexistence defined daily life in Palestine. Unchallenged, the RAF enjoyed success. When nationalist trends in the region incited urban violence, the RAF discovered itself unable to influence the behavior of population groups in Palestine's crowded cities. Thereafter, air control proved an ineffectual solution for controlling the behavior of urban populations.

Palestine also proved difficult to control because its cultural, ethnic, and religious communities lacked common leaders. During air control operations in Iraq and Aden, the RAF, aided by their Special Service offi-

cers, successfully separated tribes from their leaders. In Palestine, however, the RAF found it virtually impossible to identify a predominant leader among the many rebel factions. That shortcoming stifled RAF attempts to transfer group hostility from the government to a rebel strongman. Unable to sever such an individual from his followers, the RAF remained powerless to influence group behavior.

Despite its limited application, the British air control strategy held promise for future operations. Trenchard's unified command structure proved valuable for conducting a myriad of military operations. Its effectiveness, however, hinged on the competence of the political leader who guided the air officer in charge. Political goals framed all RAF operations. In the Sheik Salim, Sheik Mahmud, and Aden examples, RAF actions matched the expectations outlined by policy imperatives. Such was not the case in Palestine. There, the Air Ministry reluctantly accepted responsibility for the security of the area.¹⁹ Not surprisingly, when riots erupted the RAF found itself inadequate to restore order. To be successful, an air control strategy required a political leader who understood airpower and its operating environment.

Operations in Iraq and Aden, compared with those in Palestine, provided another lesson for an effective air control strategy. In Iraq and Aden, the indigenous populations lived in geographically segregated enclaves and were led by strong leaders who embodied tribal culture. Against that societal substructure the RAF attacked the prestige and influence of the leader to dislocate him from his tribe. In Aden the Quteibis ultimately pressured tribal elders into capitulating. In contrast, Palestine had a multifactional population with many leaders and diverse cultures. There, the RAF limited operations to the periphery of the rioting because of its inability to distinguish one faction from another, much less one leader from another. From the British experience, it seemed, air control worked better against homogeneous social groups following a unitary leader than against peoples lacking those traits.

The British experience in the Middle East offered a glimpse of airpower's first cogent use of an air control strategy. Although imperfect, as all strategies are, the British experiment provided a source of valuable combat experience. For airmen and soldiers who must consider applying airpower in future crises, Trenchard's notions of unity of command and unity of purpose must be the fundamental principles. Whether planning auxiliary or autonomous operations, air campaign planners who adopt control principles must recognize the advantages and disadvantages of the British air control experience. That experience proved successful, for the most part, in the limited environment of the Middle East. Great Britain abandoned air control because the concept outlived its utility. Nevertheless, it provided a source for future airpower applications.

Colonel Sleeper's Project Control model combined his interpretation of British air control principles with an early understanding of nuclear warfare. Project Control was a coercive airpower strategy that aimed to dislo-

cate Russian life by destroying the Soviet nuclear threat and discrediting Soviet communism. Based on the Aden example, the Project Control team postulated that separating the Russian people from their communist “captors” would cause revolt against communist authority. In each phase of the control campaign, team members hoped to achieve results by slowly increasing pressure against the Soviet state. Ultimately, Project Control sought Soviet compliance with internationally recognized standards of behavior. In that regard, it was a theoretical proposal influenced by the nation’s civilian strategists, and it blended their thoughts on conventional and nuclear warfare. It also projected a variety of different results.

According to Colonel Sleeper’s group, the objective of Project Control was to control hostile behavior rather than hostile will.²⁰ Colonel Sleeper believed that a government’s behavior could be altered much more easily than its will destroyed.²¹ To determine which measures produced behavioral change, he called for a continual assessment of intelligence information.²² Accurate intelligence allowed airpower to adjust to changed conditions in the enemy nation. For instance, the transition from the persuasion phase to the pressure phase would result from frequent evaluations of airpower’s political and military effects.²³

In addition, Project Control defined high-level decision making as a deliberative process. Each phase was designed to achieve specific political goals. For example, the persuasion phase consisted of a series of scrupulously developed steps aimed at signaling US intent.²⁴ The modification of political goals—or changes in the opponent’s behavior—caused airpower to respond accordingly. By combining the deliberative process with a precise framework for increasing pressure, Project Control’s model offered a carefully construed political mechanism for escalating military force.

To ensure ultimate success, the Project Control team called for overwhelming force in each phase of the control campaign. To achieve success in the persuasion phase, forward air patrol operations methodically moved USAF air defenses farther north until they nearly abutted the Soviet Union’s border.²⁵ Team members expected forward air patrol to intimidate the Soviets into military passivity in the polar region.²⁶ Likewise, during the pressure phase, the Strategic Atomic Offensive used a massive nuclear attack to dismantle all elements of the Soviet nuclear infrastructure.²⁷ After the Strategic Atomic Offensive, Project Control team members expected Soviet acceptance of US terms.²⁸ The essence of Project Control was a progressive strategy, and that strategy could not be progressive without being massive.

Colonel Sleeper designed Project Control around the premise that airpower would be but one element of a nation’s control strategy. In the persuasion phase, for instance, he thought that airpower could replace the need for a large standing army.²⁹ The basis of this belief was the B-36 and the hydrogen bomb,³⁰ which together possessed the potential in one attack to deliver more firepower than at any previous time in human history. In the pressure phase, nuclear weapons completely eliminated the need for

conventional air or surface forces.³¹ Project Control's emphasis on nuclear power reflected Colonel Sleeper's desire to create an effective model that was also efficient. For this reason, he did not dismiss surface forces; he merely revamped their function to match the changing environment of the nuclear battlefield. Surface forces thus changed from the primary combat force to a supporting one.³²

By design, Project Control was the military contribution to a national control policy. By incorporating the political and economic instruments of national power into a unitary control scheme, Project Control hoped to produce synergistic effects that would overwhelm Soviet communism. For instance, Project Control team members assumed that USAF operations would complement diplomatic and economic efforts to dismantle the iron curtain and unify Germany. They believed those efforts would create a national momentum that the Soviet regime could not deflect. In addition, by clearly defining their military strategy within the framework of a national control policy, the Project Control team hoped to avoid duplicating operational efforts—intelligence, logistics, research and development—between the political, economic, and military instruments of national power.³³ In that respect, by adopting a military strategy that emphasized airpower, Project Control promised a much more cost-effective military infrastructure than comparable solutions based on surface strategies.³⁴ In fact, one analysis of the control strategy speculated that it would have saved \$1.1 trillion when compared to the bill for World War II.³⁵

Despite its encouraging projections, Project Control contained fundamental flaws in its theory that tainted its conclusions. Foremost among its weaknesses was its dependence on historical analysis derived from a potentially flawed model. Although the Project Control team thoroughly researched, analyzed, and presented the Japanese and German tests, by interpreting prewar events with the benefit of America's World War II experience the team produced predictable results. The gift of hindsight cleared away the fog and friction that obscured world events during the period of America's isolationism. To presume that a reliance on airpower would have changed America's responses to Japanese and German provocation meant a departure from analytical scholarship into airpower zealotry. Although Project Control was a thought-provoking strategy, this shortcoming caused its projections to appear contrived.

Apart from its analytical models, Project Control's Russian study also suffered from a series of potentially faulty assumptions. The choice of an escalatory strategy assumed that there was a threshold of pain beyond which the Soviets would not venture. That assumption led the control team to predict that persuasion or pressure operations would produce societal responses leading to Soviet capitulation.³⁶ To ensure such results, the Project Control team assumed that military force was an effective counter to ideology and culture.³⁷ Their analysis did not provide any historical examples to support that notion.

Another critical weakness resulting from faulty assumptions was the one-sided nature of the proposal. Throughout the control studies, Colonel Sleeper's team assumed America possessed a preponderance of military strength while the Soviets possessed a meager military capability. Hence, it projected that the USAF would conduct operations in an environment of air supremacy.³⁸ Yet even then, military analysts predicted that the Soviets would ultimately achieve military parity.³⁹ As a result of that assumption the Project Control team failed to ask two vital questions. First, what happened if the Soviets resisted? During the persuasion phase, Soviet resistance triggered the pressure phase. During the pressure phase, however, continued Soviet resistance meant protracted conflict. Project Control failed to provide for such a possibility. Second, what happened if the Soviets retaliated? By positioning air defenses close to the Soviet border, the Project Control team decreased the likely effectiveness of a Soviet bomber attack. Unfortunately, the control team's analysis did not consider the possibility that Soviet bombers might evade USAF defenses much as USAF bombers were to evade Soviet defenses. By ignoring those possibilities, the Project Control team avoided the nasty issues of civilian casualties, Soviet nuclear strikes against America's European and Asian allies, or the possibility of a Soviet preemptive attack.

Project Control apparently hoped to avoid all those concerns by overwhelming the Soviet system with American political, economic, and military might. However, by overemphasizing an airpower solution Project Control ignored many of the advantages of surface forces. For example, naval blockade offered a key mechanism for applying economic pressure. A naval blockade supported by auxiliary airpower, such as reconnaissance operations, could have added another military tool to the nation's control strategy. Likewise, to stop trade between the Soviet Union and its peripheral states, the combination of ground forces and auxiliary airpower might have best achieved economic subjugation. Again, Project Control failed to examine the benefits of auxiliary airpower.

Like its British predecessor, Project Control provided a glimpse of an emerging airpower strategy. Although nuclear in emphasis, its utility was not limited to nuclear conflict. While the United States never adopted the Project Control scheme, its legacy influenced national policy makers throughout the cold war. Those airmen charged with planning air campaigns in the 1990s and beyond should consider Project Control's framework as a possible adaptation of an escalation strategy.⁴⁰ Whether planning auxiliary or autonomous operations, air campaign planners who adopt control principles must also recognize the advantages and disadvantages of that framework.

Despite the drawbacks of the air control and Project Control models, both strategies give today's airmen valuable historical insights for building tomorrow's air campaign plans. Although it is tempting to discount both strategies because of their shortcomings, as the Persian Gulf conflict demonstrated, both models contain the seed for expanding and improving

USAF approaches to war fighting. As the USAF debates its roles and missions, it may find that control principles suit future airpower schemes.

Notes

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2. Marshal of the Royal Air Force the Viscount Hugh M. Trenchard, “Aspects of Service Aviation,” *Army Quarterly* 2, no. 1 (April 1921): 9.
3. *Ibid.*
4. Gp Capt A. G. R. Garrod, “Recent Operations in Kurdistan,” *RUSI Journal* 78 (May 1933): 237.
5. *Ibid.*, 240.
6. David Killingway, “‘A Swift Agent of Government’: Air Power in British Colonial Africa, 1916–1939,” *Journal of African History*, 1984, 434.
7. Capt John B. Glubb, “Air and Ground Forces in Punitive Expeditions,” *RUSI Journal* 71 (August 1926): 777.
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9. “The Role of Special Service Officers in the Air Intelligence Organization,” *Royal Air Force Quarterly* 2, no. 1 (January 1931): 52.
10. David E. Omissi, *Air Power and Colonial Control: The Royal Air Force 1919–1939* (Manchester, England: Manchester University Press, 1990), 37.
11. Gp Capt J. A. Chamier, “Co-operation of Aircraft with Artillery,” *Army Quarterly* 4, no. 1 (April 1922): 47–48.
12. Omissi, 103.
13. *Ibid.*, 20–21.
14. Jafna L. Cox, “A Splendid Training Ground: The Importance to the Royal Air Force of its Role in Iraq, 1919–1932,” *Journal of Imperial and Commonwealth History* 13 (1984): 169.
15. Roger A. Beaumont, “A New Lease on Empire: Air Policing, 1919–1939,” *Aerospace Historian* 26, no. 2 (Summer/June 1979): 86; Cox, 171–73; Flt Lt E. J. Kingston-McCloughry, “The Gordon-Shepard Memorial Prize Essay, 1933,” *Royal Air Force Quarterly* 5, no. 3 (July 1934): 252–54.
16. Cox, 171–72 and 176.
17. The Honourable Sqdn Ldr R. A. Cochrane, “The Work of the Royal Air Force at Aden,” *RUSI Journal* 76 (February 1931): 91–92; David E. Omissi, “Technology and Repression: Air Control in Palestine 1922–1936,” *Journal of Strategic Studies* 13 (December 1990), 44–45.
18. Cochrane, 91–92.
19. Malcolm Smith, *British Air Strategy between the Wars* (Oxford: Clarendon Press, 1984), 30.
20. “The Concept of Control by Air and Other Means,” Project Control (Maxwell AFB, Ala.: Air War College, June 1954), 11. HRA File K239.042-9. This theme dominates all the Project Control documents.
21. Raymond S. Sleeper, “The Political-Psychological Aspects of Offensive Air,” TMs [photocopy], 4 February 1953, Maxwell AFB, Ala., 26. HRA File K239.716253-66.
22. Raymond S. Sleeper, interviewed by author, Herndon, Va., 15–16 January 1993.
23. “The Concept of Control by Air and Other Means,” 12.
24. Sleeper interview.
25. “Forward Air Patrol,” Project Control (Maxwell AFB, Ala.; Air War College, June 1954), 14–18. HRA File K239.042-16.
26. *Ibid.*, 2.
27. “The Strategic Atomic Offensive,” Project Control (Maxwell AFB, Ala.: Air War College, June 1954), 6–7. HRA File K239.042-19.
28. *Ibid.*, 19.
29. “The Political-Psychological Aspects of Offensive Air,” 30–31.
30. Sleeper interview.

31. Dr. Paul H. Nitze, "A Project for Further Analysis and Study of Certain Factors Affecting Our Foreign Policy and Our National Defense Policy," in "War Gaming the Persuasive Phase of Project Control," tab. L, Project Control (Maxwell AFB, Ala.: Air War College, October 1954), 92-100. HRA File K239.042-26.

32. Sleeper interview.

33. "The Concept of Control by Air and Other Means," 119.

34. *Ibid.*, 116.

35. *Ibid.*, 117.

36. *Ibid.*, 114.

37. *Ibid.*

38. *Ibid.*, 2-3; air supremacy results when the opposing air force is no longer capable of interfering with your air operations. AFM 1-1, *Basic Aerospace Doctrine of the United States Air Force*, vol. 2, March 1992, 273.

39. Nitze, 92.

40. Thomas C. Schelling, *Arms and Influence* (New Haven: Yale University Press, 1966).

Chapter 6

Summary and Conclusion

Airmen must not consider a control scheme a panacea strategy, nor should they dismiss its advantages out of hand, regardless of how airpower is applied. Future military conflicts will likely contain auxiliary and autonomous applications of airpower. In some instances, the air campaign should take priority over surface campaigns. In other cases, airpower should be subordinate to surface actions. The Palestine incident, however, shows that political and military leaders must resist the urge to consider airpower as the answer for soundly developed military strategy.

Although air control was the first airpower strategy packaged, adopted, and applied by a nation, it began as a mechanism for cutting costs while maintaining military effectiveness. As it matured, the strategy expanded its repertoire of roles and missions. In the Middle East, the British discovered that in most instances, airpower alone could quickly and efficiently respond to a crisis. Responsiveness, a fundamental characteristic of airpower, led American strategists to explore air control's potential as a containment strategy. Thereafter, it remained relatively dormant for 35 years. In 1990 control principles reappeared to serve as a partial foundation for the Desert Storm air war.¹ In the future, control principles should become increasingly suited to the climate of a leaner defense budget and a smaller USAF.

For the RAF in the 1920s and the USAF in the 1950s, control was a strategy that optimized airpower despite a declining military budget. Similarly, in the current climate of fiscal austerity, Project Control's framework offers airmen a means for maximizing airpower's capabilities. Although another Persian Gulf conflict seems unlikely, an air control strategy may suit future American conflicts. The problems associated with the dissolution of Soviet communism closely resemble those associated with the demise of the British empire. Soviet-styled communism harnessed ethnic and cultural discord. The British imperial system did likewise. As each empire collapsed and peoples gained increased freedom, nationalism fermented. In some cases, such as Lithuania or the Sheik Salim incident, nationalist friction produced conflict with the ruling authority. In other cases, such as the former Yugoslavia or Palestine, nationalism spurred conflict with other subnational groups. The type of conflict remains a key aspect in determining the relevance of control principles. In Lithuania ethnic and territorial boundaries define the opponents. In Yugoslavia indistinct boundaries make it virtually impossible to distinguish the opponents. In the future political and military leaders must recognize airpower's limited ability to distinguish Moslems from

Christians, and instead focus their efforts on the source of instability: ethnic, cultural, religious, and racial nationalism.

In the British experience, success and failure using air control expanded British airmen's knowledge of airpower's capabilities and limitations. The Sheik Salim incident was an example of successful autonomous operations. The Sheik Mahmud incident was an example of successful auxiliary operations. In both cases, airpower demonstrated tremendous flexibility in manipulating military operations. In addition, airmen began to develop a strong appreciation for a unified command structure. In both instances, an airman commanded the total military force.

In the current American military, surface officers usually serve as theater commanders. As such, they generally shoulder the responsibility for directing USAF operations, as well as those of the United States Marine Corps and Navy. Accordingly, these services must create in their leadership an air-mindedness that encourages the integration of auxiliary and autonomous operations into a theater campaign. These future commanders should also have an understanding of air control principles, as well as of the advantages and disadvantages of using an air control strategy. Understanding air control will help them orchestrate the ground campaign with the air campaign, and it will help them understand the application of auxiliary and autonomous airpower. Failure to understand air control may cause them to suffer the same misfortune as those who commanded operations in Palestine.

Project Control also offers tomorrow's commanders considerable food for thought. The theoretical nature of its analysis typified the method political and social scientists chose to define, analyze, and postulate nuclear theories throughout the cold war. Supporting deterrent and containment theories, Project Control provided political and military leaders a framework for analyzing the nuclear world. Despite the potential fallibility of their historical analysis, the control team constructed a sound process for conducting military operations: the persuasion, pressure, and administration phases represented a plausible course for an airpower strategy. This framework deserves consideration when developing air force operations in the future. Care must be taken, however, to avoid the type of escalation strategy that failed so miserably during Rolling Thunder.² If an air campaign relies on an escalatory strategy, Project Control's design to increase levels of overwhelming force seems appropriate. Commanders must also understand, however, that Project Control's framework gives politicians a mechanism to control the tempo of conflict. One must reflect on the Johnson administration's view of military operations in Vietnam to appreciate the importance of understanding that implication.

The Persian Gulf conflict was the implementation of an air control strategy. Like the British model, Desert Storm caused a dislocation of the Iraqi army in Kuwait and the society it was meant to secure. The air campaign consisted of auxiliary operations supporting coalition surface forces and

autonomous operations supporting policy goals unobtainable with auxiliary methods. The cooperative relationship between the air and surface forces leadership mirrored Trenchard's emphasis on unity. Like Project Control, the application of airpower was overwhelming. It also resembled Project Control's three-phase scheme. Unfortunately, future conflicts will not likely present an adversary so willing to sacrifice its army or its arms.

This work examined the British air control experience, the USAF Project Control study, and their contributions to the Persian Gulf conflict's air campaign. This work also assessed the strengths and weaknesses of the British and American control frameworks. From this account, political and military leaders, and airmen and soldiers of all ranks, may discover how a control strategy operates and what makes it succeed.

For the British, air control was a measure adopted to increase military effectiveness during a period of significant military force reductions. Similarly, Project Control's proposal for "an airpower solution" surfaced when the military services were recovering from the demobilization of World War II. In contrast, the Persian Gulf conflict happened prior to the cold war drawdown, and its success may have resulted in part from the availability of abundant air and space assets.

By examining air control, how it works, and what it means to accomplish it, those developing future airpower strategies may find that a control strategy or control principles offer solutions. Air control is one method for coercing an opponent. It is one method for applying overwhelming force. It is one method for retaining effectiveness without relinquishing policy goals.

Is air control the strategy for a smaller USAF? Air control offers the USAF a strategy that optimizes military might and combines auxiliary and autonomous operations in one air campaign plan. Air control is not an independent air campaign. It is a military strategy that integrates air, space, and surface operations. Yet, it emphasizes airpower. For tomorrow's USAF, air control is not the answer, but it is an answer.

Notes

1. John A. Warden III, interviewed by author, Maxwell AFB, Ala., 1 March 1993.
2. Mark Clodfelter, *The Limits of Air Power: The American Bombing of North Vietnam* (New York: Free Press, 1989), 39-72.